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9745

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7898 8761 9629 9738 9739

SHEAR FLOW
2898 2911 4572 4575 5303 5321 6136 6137 7943 9757

SEE ALSO--- WINGS

AIRPLANE
1275 1276 4670 5317 6588 7033 7845 8708

CONTROL
526 527 1666 4079 5495 9182

DESIGN
219 3701 4936 5309 5310 6845 6846 6847 6849 6850
6855 6856 6857 6880 6881 7755 8503 9758

DYNAMIC LOADS
5969 7920 8503 9953

HANDLING QUALITIES
3309 3700 9154

AIRPLANE *CONTINUED*

LATERAL STABILITY
2927 2929 2930 3709 4541 5318 5319 5320 7026 7037
7918 8102 9196

LOADS
1277 1288 6120 7198 7913

LONGITUDINAL STABILITY
508 1665 2085 3294 3707 6121 6127 6316 7026 7027
7897 7905 7917 8102 9757 9759 9761

SPIN RECOVERY
4540 4542 9756

SEE ALSO--- AERODYNAMIC COEFFICIENTS-- GLIDERS -- GUIDANCE SYSTEMS, AIRCRAFT -- HIGH LIFT DEVICES -- ICING -- JET FLAPS -- LANDING AND TAKEOFF -- NOISE, AIRCRAFT -- PERFORMANCE, AIRPLANES -- STRUCTURES, AIRPLANE -- VIBRATION, AIRPLANES

AIR PREHEATERS
4637

AIRSHIPS--- *SEE* BALLOONS AND AIRSHIPS

ALGEBRAIC EQUATIONS--- *SEE* EQUATIONS, ALGEBRAIC

ALUMINUM AND ALUMINUM ALLOYS
113 115 325 390 964 1103 2365 2700 5096 5769
5903 5906 6433 7533 8404 8409 8544 8545 9245 9437
9438 10073

ANALOG COMPUTERS--- *SEE* COMPUTING TECHNIQUES, ANALOG

ANALOGIES
1633 1634 3635 5696

ELECTRICAL
584 1629 1631 4057 5695 5697 6533 6534 7429 8307
9146 9148 9149

FLUID MECHANICS
64 1246 6534

HEAT TRANSFER
2145 2989 3024 3750 4057 5660 7430 7991 8015 9817
9866

HYDRAULIC
1632 6534 7428

SOLID MECHANICS
4984 6532 6533

ANALYSIS, NUMERICAL--- *SEE* NUMERICAL ANALYSIS

ANEMOMETER
2958 5362 6170 7072 7073 7953 8751 8797 9736 9792
9799

HOT-FILM
2064 4645 6079 6106 6994

HOT-WIRE
3692 4517 4570 6094 6109 7141 7873 8796

SEE ALSO--- INSTRUMENTS -- TURBULENCE, MEASUREMENTS -- VELOCITY MEASUREMENT

ANISOTROPIC MEDIA
123 125 2533 4128 4970 8406 8407

SEE ALSO--- VIBRATION, ANISOTROPIC MEDIA

ANISOTROPIC PLATES--- *SEE* PLATES, ANISOTROPIC

ANISOTROPIC SHELLS--- *SEE* SHELLS, ANISOTROPIC

APPROXIMATIONS--- *SEE* SERIES EXPANSION AND OTHER APPROXIMATIONS

ARCHES AND VAULTS
144 960 978 979 1160 2753 3384 4143 4167 4356 4996 5097 5848 7523 7545 8602

SEE ALSO--- BUCKLING, ARCHES AND VAULTS

ARCS
6249

JETS
1408 4579

MAGNETICALLY CONSTRAINED
690 1422 3080 3083 3857 5482 8080 8930

STABILITY
3846

ARTIFICIAL SATELLITES
1457 1473 1475 3105 3106 3107 3109 4724 6325 7214 7315 8116 8946

ATTITUDE DETERMINATION
24 709 712 2259 2262 2270 4725 4726 6329 7216 8118 8338 8945

COMMUNICATION SATELLITES
6326 6338 7230

COVERAGE PROBLEMS
6340

HIGH ALTITUDE ATMOSPHERE
1545

MANNED SATELLITES
4722 7215

ORBIT DECAY-LIFETIME
3875

TWENTY FOUR HOUR SATELLITES
1450 6339 7229 8117

WEATHER SATELLITES
6423 8208

SEE ALSO--- CELESTIAL MECHANICS -- MASCON -- ORBIT MECHANICS -- RADIATION PRESSURE -- REENTRY -- SATELLITES

ASTRONAUTICS
1 706 4256 8014 8302 8937

SEE ALSO--- ARTIFICIAL SATELLITES -- ASTROPHYSICS -- CELESTIAL MECHANICS -- INTERPLANETARY PROBES -- LUNAR MISSIONS -- MISSILES -- ORBIT MECHANICS -- RADIATION PRESSURE -- REENTRY -- ROCKETS -- SPACE VEHICLE DESIGN -- SPACE VEHICLE HEAT TRANSFER -- SPACE VEHICLE NAVIGATION AND GUIDANCE -- SPACE VEHICLE POWER -- SPACE VEHICLE PROPULSION -- SPACE VEHICLE STABILIZATION

ASTROPHYSICS
1340 2505 4945 6597 8014 9213

EXTRAGALACTIC SYSTEM
9928

GALACTIC SYSTEM
1396

SOLAR SYSTEM
4256 6299

ASTROPHYSICS *CONTINUED*

SEE ALSO--- ASTRONAUTICS -- CELESTIAL MECHANICS -- ORBIT MECHANICS

ATMOSPHERE--- *SEE* METEOROLOGY, ATMOSPHERE

ATOMIZATION--- *SEE* SPRAYS

ATTENUATION OF SOUND--- *SEE* SOUND, ATTENUATION

AUTOMATA--- *SEE* LEARNING SYSTEMS, AUTOMATA

AUTOMATIC CONTROL
566 1635 1636 1677 2436 6535 6536 6570 7038 8312 8339 8341 8373 8798

ANALOG COMPUTER CONTROL
6530

COMPENSATION
1639 4066 5698

DESIGN AND SYNTHESIS
50 51 60 71 887 1643 2445 5700 5704

DIGITAL COMPUTER CONTROL
61 905 915 916 1663 1664 1665 2468 2470 4899 9173 9184

DISCRETE AND SAMPLED DATA SYSTEMS
57 68 889 906 907 926 931 3283 3290 5720 6556 6558 7426 7450 7451 7452 9171 9185

DISTRIBUTED PARAMETER SYSTEMS
891 908 920 2466 3291 4063 4911 6534 6560 7453

ELECTRICAL COMPONENTS
1678 3298 8344 8345 9180

ELECTROMECHANICAL COMPONENTS
67 890

FREQUENCY DOMAIN TECHNIQUES
51 1667 2442 2444 3287 3304 5702 7433 7454 8309 8314 8316

GRAPHICAL TECHNIQUES
894 2448 3284 4051 4902 7444 8354 9158

HARMONIC BALANCE AND DESCRIBING FUNCTION TECHS
52 54 903 2441 2446 2451 4068 6540 8317 9158

HYBRID SYSTEMS
5713 9179

HYDRAULIC COMPONENTS
65 922 1673 1674 4066 7457 8345 9172 9180

IDENTIFICATION
53 1640 1658 2461 2462 2463 2494 2495 3287 3288 3289 3293 4080 4909 6541 6553 6554 6555 6564 6588 7449 8329 9200

LARGE SYSTEMS
5719

LIMIT CYCLES AND OSCILLATIONS
897 907 1638 1655 1659 4908 6558 6562 6593 8360

MECHANICAL COMPONENTS
9177

MODELING
73 919 1644 1664 6566 8308 8311 9167 9191

MODULATED SYSTEMS
1655 6544 6557 6573 9172 9178 9195

MULTIVARIABLE SYSTEMS
60 923 926 1666 1667 2471 3294 4900 4914 5714 6568 6569 6584 7455 9174 9185 9190 9196 10050

AUTOMATIC CONTROL *CONTINUED*

NONLINEAR SYSTEM ANALYSIS
47 888 934 1645 1646 2448 2465 3277 3293 6541 7632

NONLINEAR SYSTEM DESIGN
1648 1651 1654 1690 2447 6543 7437 7439 9184

NONLINEAR SYSTEM RESPONSE
69 897 900 907 1647 3280 3285 5706 6552 8324 9168

ON-OFF AND RELAY SYSTEMS
892 900 2457 2459 4908 4935 5726 8354 8360 8369

OPEN LOOP SYSTEMS
893 4065

PERFORMANCE
934 1678 2438 2454 2474 3276 4081 6592 8312

PHASE LOCKED LOOPS
8319 9155

PNEUMATIC COMPONENTS
66 1672 9176 9178 9179

PROCESSES
62 908 915 919 920 921 2474 4084 4913 5717 6571

SENSITIVITY
893 1646 2437 3297 5705 5715 9156

STATE SPACE TECHNIQUES
891 917 2439 2472 3286 4903 5699 5702 6537 6539 7453

STEPPING MOTORS
1676 6592

TIME DOMAIN TECHNIQUES
1666 2469 8313

TIME VARYING SYSTEMS
49 1639 2440 4068 4901 6538 6561 6562 7427 7454 8309 8332

SEE ALSO--- ADAPTIVE SYSTEMS -- BIOCONTROL -- CONTROL STABILITY -- CYBERNETICS -- DATA ANALYSIS -- FLUIDICS -- GUIDANCE SYSTEMS -- GYROSCOPES -- INSTRUMENTS -- LEARNING SYSTEMS -- MAN-MACHINE SYSTEMS -- NUMERICAL CONTROL -- OPERATIONAL METHODS -- OPTIMAL AUTOMATIC CONTROL -- SIMULATION -- STATISTICAL CONTROL THEORY -- THRUST, CONTROL -- TIME DELAY SYSTEMS -- TOPOLOGICAL TECHNIQUES -- VARIATIONAL METHODS, AUTOMATIC CONTROL -- VIBRATION

AUTOMOBILES--- *SEE* VEHICLES, LAND

B

BACKWATER CURVES
2793

BALL BEARINGS--- *SEE* BEARINGS, BALL

BALLISTICS

INTERIOR
2191 2282 2284 3129 3205 5545 8958 8959

RANGE
1221 1282 2837 5736 9205

TRAJECTORY
3043 3130

BALLISTICS *CONTINUED*

SEE ALSO--- DETONATION AND DEFLAGRATION -- EXPLOSIVES -- GUNS -- IMPACT, PENETRATION -- MISSILES -- PENETRATION -- PROJECTILES

BALLOONS AND AIRSHIPS
8104 9959

BASE FLOW
1278

SEE ALSO--- WAKES, BASE FLOW

BEAMS
169 1924 1925 2561 3385 4144 5147 5785 5786 5787 6651 6657 6660 6661 6853

BEAM-COLUMNS
2739 6838 7494 8159

BOX
3549 3551

CANTILEVER
2421 2558 6658 9232

COMBINED LOADING
138 3382 4178 6531 7489 7547 8427 9275

COMPOSITE
128 129 4134 4141 7547 7729

CONTINUOUS
1013

CREEP
138 1727 2530 9250

CURVED
977 1743 1744 2565 3337 3384 3392 3400 4146 4187 4994 4995 4997 4998 6654 7523 7544 8426

DYNAMIC LOADING
1620 2563 5157 7737 8521

LARGE DISPLACEMENTS
1744 4145 4146 7544

NONHOMOGENEOUS
3434 9250

OPEN SECTION
1708 3381

PLASTIC DEFORMATION
339 4841 4979 6659 7523 7599 8423 8581

PRESTRESSED
361 364 1920 4350 7732

REINFORCED CONCRETE
357 1152 1154 7724 7727 8597 9516

SANDWICH
3378

THIN SECTION
973 1742 2559 2560 2562 4144 4995 5788 6652 7541 8440 9275 9286 9299 9304 9305

VARIABLE CROSS SECTION
5158 8424

SEE ALSO--- BUCKLING, BEAMS -- ELASTIC FOUNDATIONS, BEAMS -- ENERGY METHODS -- GIRDERS -- IMPACT, BEAMS -- LIMIT DESIGN AND ANALYSIS, BEAMS -- RAILS -- SANDWICH CONSTRUCTION, BEAMS -- STRUCTURES, CUTOUTS -- STRUCTURES, STATICALLY INDETERMINATE -- THERMOELASTICITY, BEAMS -- TORSION, BEAMS -- TORSION, SHAFTS -- VIBRATION, BEAMS -- WOOD,

BEAMS *CONTINUED*
SEE ALSO--- *CONTINUED*

TIMBER AND PLYWOOD

BEARING CAPACITY--- *SEE* SOIL MECHANICS, BEARING CAPACITY

BEARINGS
799 1561 1572 7341 10088

BALL
803 2374 3212 3967 4816 4818 5627 5628 6445 9053

COMPOSITE
8629

DYNAMIC EFFECTS
389 8630 8631

GAS LUBRICATED
81 82 804 805 810 2045 2375 3208 3210 5623 5624 5630 6442 6447 8235 8236 8237

GREASE LUBRICATED
1571

HYDROSTATIC
801 3565 3963 7345 9059 10079

JOURNAL
801 804 810 2371 2372 2373 3208 3965 3967 4814 5621 5622 5626 5629 5630 6439 6442 6443 6444 6446 6447 7088 8240 8241 9060 10077 10078 10084 10086

LIQUID LUBRICATED
389 3211 3565 7088

POROUS METAL
3965 8231 8235

ROLLER
808 2368 3970 4817 5988 8238 8631 9443

SLIDER
793 806 9056 10085

THERMAL EFFECT
806 4814 5621

THRUST
801 807 3210 3211 3963 5620 5625 5987 6444 7340 8236 8237 8239

UNCONVENTIONAL-ELECTROSTATIC,MAGNETIC,ACOUSTIC,ET
8239

SEE ALSO--- FATIGUE, BEARINGS -- VIBRATION, BEARINGS

BED

FLUIDIZED
763 1200 1367 1522 1529 2142 2328 3757 3776 3915 5388 5437 7093 7094 7298 7651 7657 7996 10027 10031

OCEAN
1981 6775

PACKED
636 2328 3785 6209 10031

RIVER
411 413 422 1973 2797 3585 3589 3590 5189 5197 5233 6011 6012 6917 6918 6930 7806 8662 9608 9609 9610

SEE ALSO--- HEAT TRANSFER, FLUIDIZED BEDS -- SEDIMENT TRANSPORT

BELLOWS--- *SEE* SHELLS, BELLOWS

BELTS
99 382 8401 9554

SEE ALSO--- CABLES AND FLEXIBLE FILAMENTS -- CHAINS

BENDING--- *SEE* UNDER MODIFIER

BENTS--- *SEE* FRAMES AND BENTS

BERYLLIUM
795

BIBLIOGRAPHY
5585

SEE ALSO--- UNDER MODIFIER

BIOCONTROL
825 830 831 833 834 836 1581 2387 2388 3214 3218 3224 3983 5633 6459 6460 8255 8256 8257 8258 8259 8260 8261 10113 10117 10119

SEE ALSO--- MAN-MACHINE SYSTEMS

BIODYNAMICS
818 819 848 2175 3222 4819 4821 6449 7348 7349 7352 8242 9063 9065 10092

SEE ALSO--- HUMAN ENGINEERING -- VIBRATION, HUMAN

BIOMATHEMATICS
825 832 833 1581 6455 7354 7360 8250 8260 10099

SEE ALSO--- BIOMECHANICS

BIOLOGICAL DATA PROCESSING
827 835 5642 5691 6455 9074 9075 10102 10103

BIOMECHANICS
825 2509 3214 7349 8250 9104

CARDIO-VASCULAR
534 2379 2380 2381 3982 4830 5635 6452 6453 6458 7354 7362 7364 8243 8244 8249 10095 10114

CIRCULATION
820 822 1579 2382 2383 2385 3221 3222 3973 3974 3978 3979 3980 4823 4824 4825 4826 5639 6451 6452 6455 6456 7288 7357 7360 9070 10093 10095 10099

HEAD
819 1576 4819 7057 7351 7352 10088

HEARING
734 1486 1577 3223 5636 9069 9990 10115 10118

LOCOMOTION
826 4822 4831 10091

MEASUREMENTS AND EXPERIMENTAL TECHNIQUES
734 813 829 1576 3217 4820 5638 6457 7357 7362 7365 8158 8250 8252 8253 9066 9071 9990 10106 10109

MECHANICAL PROPERTIES OF MATERIALS
812 813 814 815 821 829 1573 1574 1575 1578 2378 2379 3219 3578 3973 4115 4827 5631 5637 6449 6450 7347 7350 7359 7795 8244 9062 9066 9067 10111

METABOLISM
824 3975 3981 4828 4829 5691 6452 6453 6454 8245 8246 8247 9070 10096 10104

MUSCULO-SKELETAL
811 817 818 2044 3216 4827 5632 5633

NERVOUS SYSTEM
821 3983 3984 3985 6459 6461 8254 8255 10117

BIOMECHANICS *CONTINUED*

OCULAR SYSTEM
9066 10107

PROSTHETIC DEVICES
2377 2386 2387 2389 3224 3225 3978 4822 4825 4830
5634 6436 7361 8249 8257 9072 10100 10101

PSYCHOLOGY
2390 8258

RESPIRATORY
2376 3226 5635 7353 7358 7364 8246 8247 8261 10114

STRUCTURAL SUPPORT
3215 5631 5632 6448 6449 7347 7361 9062 9064 10089

TESTING
1578 9068

TISSUES, ORGANS AND CAVITIES
813 814 815 828 1574 1575 2376 2378 2380 2386
3972 4827 5637 5640 5641 6450 6457 7350 7358 7359
7364 9062 10090 10094

SEE ALSO--- BIODYNAMICS -- BIOMATHEMATICS -- HEAT TRANSFER, BIOLOGICAL -- HUMAN ENGINEERING -- KINEMATICS, HUMAN BODY -- KINEMATICS, MOBILITY -- MAN-MACHINE SYSTEMS -- PLASMA (MEDICAL)

BLADES--- *SEE* UNDER MODIFIER

BLAST LOADING--- *SEE* EXPLOSION, EFFECTS ON STRUCTURES

BLAST WAVES--- *SEE* WAVES, BLAST

BLOWERS--- *SEE* COMPRESSORS

BODIES, COMPRESSIBLE FLOW PAST
2010 3628 4532 6463 7843 9657 9660 9664

BLUNT
453 1227 2013 2029 2831 2835 2845 2910 2912 3629
3648 4441 4442 4443 4449 4451 4457 4533 6058 6071
6072 6123 6124 6295 6964 6966 7841 9663 9684

BODIES OF REVOLUTION
449 1220 1221 2012 2875 2878 2920 3636 3671 4445
4447 6961 6980 8762 9659

CONICAL
450 452 455 519 524 525 1225 1250 2076 2865
2872 2928 3631 3666 3667 3677 4444 4456 4463 5307
6045 6080 6963 6965 6974 7840 7865 7872 7904 7909
8729 9658 9661 9711 9712 9747 9749

CYLINDRICAL
2009 2016 2017 2826 2861 3637 4435 4438 4534 5265
6114 7836 8087 8088 9662 9672

OGIVE
2830 2833

PLANE SURFACES
475 525 1217 2828 2832 2858 2859 4527 6048 6069
9924

SLENDER
2068 2076 3640 3854 4531 4689 6967 7837 7839 9656
9668

SPHERICAL
476 1223 2037 2836 2837 4455 4494 6046 7847

SPIKES
6047 6130

WEDGES
1219 2014 4472 7865 8719 9665

BODIES, INCOMPRESSIBLE FLOW PAST
6017 6463 8683 9612

BLUNT
454 3669 3675 4432 5209 6038 9648

BODIES OF REVOLUTION
3082 3841 5285 6442 7824 9619

CYLINDRICAL
417 436 1190 1191 1205 1253 1979 1992 3699 4432
4504 5209 5261 6025 6422 6449 9622 9631 9640 9746

PLANE SURFACES
2226 3694 4433 5470 6289 7868 8673 8687 8909 8911

ROTATING
2048 4474 4532 5278 8676

SLENDER
2241 3852 6440 6441

SPHERICAL
427 428 442 1196 1200 1985 1998 2008 2228 2803
2877 3593 3594 3599 3603 3853 4409 4422 5191 5201
5211 6009 6022 6447 7830 8085 8666 9622 9623 9631
9646 9649 9734

SEE ALSO--- SUBMERGED BODIES

BOILERS
2495 3789 4639 4640 4644 6081 6239 6242 7120 8866
8867 9864 9878

SEE ALSO--- AIR PREHEATERS -- HEAT EXCHANGERS -- REFRACTORIES

BOILING
2164 2165 2168 2169 3779 4613 4629 6233 6236 7122
8017 8020 8856 8857 8858 8859

FORCED CONVECTION
1330 1345 1351 1352 2167 2170 2172 3017 3018 3019
3759 3771 3782 5428 6235 7114 7124 8019 8854 8855
8867 9855 9857

POOL
629 630 1347 1348 1353 2166 3016 3020 3778 3780
4630 4631 4632 5427 5429 5430 6234 7116 7117 7119
7121 7123 8016 8018 8871 9858 9859

SEE ALSO--- HEAT TRANSFER, BOILING

BOLTED JOINTS--- *SEE* JOINTS AND JOINING PROCESSES, BOLTED

BONDED JOINTS--- *SEE* JOINTS AND JOINING PROCESSES, BONDED

BOUNDARY LAYER
484 1245 2046 2051 2863 2879 3663 3665 3667 3669
3670 3677 3678 3679 4476 4481 4482 5269 5276 5277
5282 5283 5285 6057 6076 6084 6489 6491 6496 7406
7858 7875 7886 8719 8727 8732 9710 9712 9713

AXISYMMETRIC
519 1199 1252 2047 3671 4486 4494

BINARY FLOW
639 642 1256 2879 3036 3792 3793 4648 6248 7860
7890 9869

BOUNDARY FLEXIBILITY
2870 5342

BOUNDARY ROUGHNESS
496 2830 3067 4430 4484 4513 5293 6074 6488 7012
7176 7868 7888 9715 9729

CHEMICAL REACTION
491 642 3794 5443 6075 8742

BOUNDARY LAYER *CONTINUED*

COMBUSTION
6089

COMPRESSIBLE FLOW, LAMINAR
482 485 1246 2014 2043 2045 2784 2869 3681 3682
4489 5442 6077 6092 6993 7878 7993 8729 8730 8916
9708 9926

COMPRESSIBLE FLOW, TURBULENT
2030 2041 2044 2061 2225 2229 2865 2870 2878 2995
3671 3792 4486 4487 4488 4490 4491 4501 4653 5275
6078 6089 6248 7001 7862 7866 7867 7868 8731 8733
9703 9706 9709 9869 9870

CONTROL
480 1193 1253 1254 1255 1967 2051 2880 3674 4499
5185 5254 5275 6062 6086 6087 7000 7788 7865 9717

FINITE DIFFERENCE SOLUTIONS
487 492 1251 1993 3662 3666 4047 4477 4479 4486
4494 4608 4635 5275 5387 5407 6100 6993 7002 9696

HIGHER ORDER APPROXIMATIONS
547 1240 2038 2042 2047 2784 3660 3666 4477 6077
6207 7864 9696 9711

HYPERSONIC
454 1220 1249 1253 2047 2050 2872 2881 3628 3666
3668 4446 4447 4457 4463 4466 4473 4492 4493 4502
4519 4616 5286 6048 6080 6090 6995 7869 7872 8709
9711 9870

INCOMPRESSIBLE FLOW, LAMINAR
435 1967 1993 2039 2867 2868 4427 4433 4478 4512
5185 5187 5270 5365 5474 5475 7097 7098 7126 7788
7857 8078 8725 9697 9923

INCOMPRESSIBLE FLOW, TURBULENT
479 688 1244 2040 2067 3661 3675 4479 4483 4485
5271 5274 5278 5279 5294 6074 7095 7180 9702 9705

INTEGRAL METHODS
480 613 2040 2864 3000 3035 3189 3659 3668 3680
4018 4492 5184 5274 5281 5392 5399 6075 6083 6088
6148 6990 7865 7869 7985 7993 9702

INTERACTION WITH SHOCK
489 490 2051 2882 3676 4493 4501 4502 4503 6078
7001 7876 8731 8740 9718

MEASUREMENT AND EXPERIMENTAL TECHNIQUES
493 2067 2347 2871 3672 3683 3692 4488 4495 4512
4513 4653 5273 5279 6093 6994 6995 7012 7072 7076
7826 7873 7874 8735 8738 9703 9709 9715 9716 9718
9719 9729

NOISE
4512

REATTACHMENT
2876

ROTATING BODIES
1241 1269 2048 2052 2957 4474 4479 4480 5278 6082
6092 7181 8726 8861 8910

SEPARATION
435 487 488 525 1199 1249 1251 1252 1253 1265
2049 2877 3674 3675 4495 4499 4500 5284 6085 6086
6990 7874 8697 8730 9696 9732

SIMILARITY SOLUTIONS
479 481 485 491 1240 1242 1995 2042 2862 3657
3766 4489 4502 5270 5284 5413 6077 6080 7000 7867
7876 8723 8724 9697

STABILITY
2823 2870 2874 3673 6083 6219 6997 8736 8737 8738
8739 9700 9714

BOUNDARY LAYER *CONTINUED*

SUBLAYER, LAMINAR
2052 3579 5291 6101 7863 9700 9730

SURFACE MASS TRANSFER
639 647 1282 2874 2879 2995 3035 3036 3659 3704
3767 3792 3793 3794 4649 4653 5284 5286 5442 5443
5445 6088 6089 6091 6248 7016 7138 8728 8861 8877
9698 9701 9704 9869 9870 9871

THERMAL
481 2866 2868 2871 4475 4490 4491 4608 4612 4615
5387 5399 5404 5411 5413 6216 6220 6288 6960 7095
7097 7098 7101 7126 7867 7985 7993 8830 8912 9709

THREE-DIMENSIONAL
1242 2038 2048 2872 2873 4478 4492 5279 6080 6081
6082 6211 7864 7872 8729 8734 8740 9718

TRANSITION
486 568 1250 1278 1315 1338 2049 2050 2875 3672
3673 3693 4497 4498 5286 5311 6999 7872 7873 8646
9715 9716 9727 9755

TRANSITION, REVERSE
2866

UNSTEADY
1254 2871 2935 3680 3681 3682 3763 3764 3767 4504
5272 5287 6085 6091 6092 7002 7878 7879 8734

WINGS
44 467 492 2873 2876 2880 7897 9717

SEE ALSO--- AERODYNAMIC HEATING -- AEROTHERMOCHEMISTRY -- COMBUSTION, BOUNDARY LAYER -- HEAT TRANSFER, BOUNDARY LAYER -- MASS TRANSFER, TRANSPIRATION OR FILM COOLING -- NOISE, BOUNDARY LAYER -- PRESTON TUBE -- REYNOLDS ANALOGY -- SHEAR LAYER -- SKIN FRICTION, FLUID FLOW -- TEMPERATURE RECOVERY -- WAKES

BOUNDARY-VALUE PROBLEMS
870 6485 6492 9136

COMBINED FIELDS
8284 10045

FLUID MECHANICS
5185 6002 7881 8723

HEAT TRANSFER
588 2135 3756 6195 8724 8826

SOLID MECHANICS
952 3345 3351 5766 7524 7527 7529 9246

SEE ALSO--- EIGENVALUE PROBLEMS

BRAKES
7335 8624

BRASS
1565

BRIDGES
417 1162 1163 1802 1926 3451 7739 8605 9531 9532

BOX-GIRDER
3549 6867 9529 9533

DECKING
1928 3554 4358 4359 7734

HIGHWAY
367 368 9530

RAILROAD
3658 7741 7757

BRIDGES *CONTINUED*

SUSPENSION
1927 2756 4702 5497 5499 6885 7740

SEE ALSO--- FOUNDATIONS, PIERS -- VIBRATION, BRIDGES

BUBBLE DYNAMICS
630 759 760 1297 1345 1346 1348 1353 2166 2168
2820 3779 3780 3782 3916 3917 4630 4632 5430 6233
6234 6398 6399 6400 6401 7117 7119 7283 7923 8018
8176 8177 8178 8179 8856 8857 8871 8927 9009 9010
9011 9012 10026 10040

AERATION
6401

CAVITATION FLOW
418 2099 5206 8666

SEE ALSO--- BOUNDARY LAYER, BINARY FLOW

BUCKLING
1769 1766 5016 5029 9297

ARCHES AND VAULTS
179 1771 2607 2608 4184 6684 6685 7573 7574 8464
9300 9301 9302 9303

BEAMS, ELASTIC
178 209 1006 1007 1009 1010 1768 1770 2605 3412
4179 4187 4203 5017 5019 5020 5022 5029 5812 6689
7572 7647 8449 8451 8452 9113 9299

BEAMS, PLASTIC
3411 5018 6683 8446 8452

COMBINED LOADING
185 1011 1746 1769 3409 3411 3418 6681 9326

CREEP
187 1020 1021 2620 3422 5824 6696 6700 8467

DYNAMIC LOADING
1015 2608 3421 5816 5823 8448 8464 8465 9309 9323
9324

EXPERIMENTAL
8449 8459

FRAMES
1016 1772 1773 2609 2610 4185 4186 4188 4189 6686

GENERAL THEORY
1005 1762 3423 4180 8453

GIRDERS
6702 7575 8447 8450

LARGE DISPLACEMENTS
178 184 190 1000 3410 3417 4194 9300 9303

LOCAL BUCKLING
1022 2698

NONLINEAR
2606 4191 7574 8459 9297 9319

PIPES AND TUBES
1765 8610

PLASTIC
1008 1763 2610 2698 3416 3495 4181 4184 6686 6699
7575 8466 9311 9325

PLATES
180 181 188 189 1004 1008 2611 2612 3413 3414
4176 4190 4191 4192 5024 5816 5817 5827 6687 6688
6699 7519 7576 7577 7578 7579 7580 7584 8416 8455
9307 9308 9309 9311 9312 9313 9314 9315 9326

BUCKLING *CONTINUED*

POST-BUCKLING BEHAVIOR
1023 2621 3408 3420 3423 4196 5028 5825 5826 5827
6688 6694 6701 6702 7574 8447 8462 9326

RINGS
4183

SANDWICH CONSTRUCTION
190 3422 7578 9307 9310 9321

SHELLS
1019 2617 2619 3417 3418 3422 3450 4194 4197 4199
4200 5025 5823 6698 6701 7584 8463 9308 9317 9319
9320

SHELLS, AXISYMMETRIC
177 182 183 184 185 186 187 191 1017 1019
1020 1021 1023 1775 1776 1777 2618 3416 3419 4172
4193 4195 4196 4198 4201 5023 5026 5027 5028 5576
5807 5818 5819 5820 5821 5824 6387 6690 6693 6694
6695 6696 6697 6700 7581 7583 7585 7588 8456 8457
8459 8460 8461 8462 9306 9316 9322 9323 9324

SHELLS, STIFFENED
191 371 2614 2615 2616 3420 4196 5024 5822 6691
6692 6697 7582 7586 7587 8458

SHELLS, THICK
5807

SPRINGS
6682

STRUCTURES
176 1003 1774 2603 2604 3408 3415 4182 5811 5814
5815 8454 9298 9320

THERMAL
2321 5576 6387 7582 10015

TORSIONAL
1012 1769 5021 5025

VARIABLE SECTION
1767 2618 5813

SEE ALSO--- COLUMNS

BUFFETING--- *SEE* GUST LOADS

BUILDINGS--- *SEE* STRUCTURES, BUILDINGS

BURNERS

GASEOUS FUEL
3041 6061 8062

LIQUID FUEL
9838

SOLID FUEL
1378

BURNING VELOCITY--- *SEE* FLAME, PROPAGATION

C

CABLES AND FLEXIBLE FILAMENTS
139 171 206 207 971 1155 1899 1927 1942 2557
2726 2768 3431 3559 5141 5172 5173 8425

SEE ALSO--- BELTS -- DYNAMICS, CABLES AND STRINGS -- IMPACT, CABLES AND STRINGS -- VIBRATION, CABLES AND STRINGS -- WAVES, CABLES AND STRINGS

CALORIMETER
8816

ADIABATIC
2985

DROP
8634

CAMS
1173 1174 2770 3560 5983 5984 7763 7764 7765 9551
9555

CANALS
8655

SEE ALSO--- CHANNELS

CAPILLARY FLOW
638 9856

SEE ALSO--- PIPE FLOW, CAPILLARY

CASCADES OF AIRFOILS
546 547 3732 4561 9780 9785

COMPRESSIBLE FLOW
548 2947 2948 4558 4564 5347 7943 7945 9778 9779

INCOMPRESSIBLE FLOW
558 562 2111 5357 7944

SEE ALSO--- TURBINES AND TURBOMACHINERY

CASTING
8015

CAVITATION
1344 3017 3588 6938 6998 7952 9050 9051 9978
MARCH FEATURE ARTICLE

AXISYMMETRIC BODY
2069 8666 8667

DAMAGE
2099 2370 4741 4812 7802
MARCH FEATURE ARTICLE

HYDROFOILS
3149 3200 3598 4402 4813 5611 6429 8219 9618 9790

INDUCERS
552 2799 7071 9786

MECHANISM
418 730 1493 1496 4402 5206 5293 6024 7802 8139

PROPELLERS
1310 3728 7070 7950

PUMPS
2114 2956 6168 8795 9786 9789

SEE ALSO--- BUBBLE DYNAMICS, CAVITATION FLOW --
EROSION -- FRETTING -- NOISE, CAVITATION -- WEAR

CELESTIAL MECHANICS
1476 2250 2251 3101 4719 4995 8110 8115 8123 9967

ASTRODYNAMICAL CONSTANTS
3858

EPHEMERUS DEVELOPMENT
718 1479 8109

GENERAL PERTURBATIONS
704 1499 1451 2249 2252 3103 3123 3874 4720 5502
5507 5530 5740 9965

LIBRATION THEORY
717 2260 3102 5729 6317 6318 6326 7230 8111

CELESTIAL MECHANICS *CONTINUED*

THREE BODY THEORY
700 701 1444 3100 6319 6322 6525 8990

SEE ALSO--- ARTIFICIAL SATELLITES --
INTERPLANETARY PROBES -- LUNAR MISSIONS -- ORBIT
MECHANICS -- RADIATION PRESSURE -- REENTRY

CERAMICS
1096 2141 4292 8820

CHAINS
2769

CHANNELS
3752 9731

CLOSED, FLOW
1494 2006 2217 3598 3624 5217 6007 8653

EROSION
414 1473

OPEN, FLOW
412 420 1474 1475 1478 1480 2103 2791 2793 2794
2810 2899 3170 3583 3586 4390 4393 4394 4395 4552
4785 5141 5144 5331 6014 6096 6918 6923 7043 8652
8655 8656 8660 8780 8781 9603 9652

SEDIMENTATION
413

SEE ALSO--- BACKWATER CURVES -- CANALS --
IRRIGATION -- PIPE FLOW -- STREAMS, NATURAL

CHEMICAL

ENGINEERING
7431

KINETICS
1322 3033 5661 7417 9868

THERMODYNAMICS
1322

SEE ALSO--- COMBUSTION -- HEAT TRANSFER,
CHEMICAL REACTION PRESENT -- REACTORS, CHEMICAL --
THERMODYNAMICS

CHEMICAL REACTIONS
12 3033 9086 9091 9108

DECOMPOSITION
3033

OXIDATION
4656

CHIP FORMATION
1863 5909

CHUTES AND CONVEYORS
2769 9576

CLADDING
6797 6803 7521

CLAY
273 284 1073 1489 1836 2678 3479 3580 4260 5894
6767 6768 6773 7651 7655 8650 9413 9414

CLOUDS
2351 2352 6423 9033

SEE ALSO--- METEOROLOGY, CLOUD PHYSICS

CLUTCHES
4603 7335 8623

COASTAL ENGINEERING
421 1482 3721 5592 10056

COATINGS AND FILMS
594 1890

BIREFRINGENT
9477

BRITTLE
9476

EVAPORATED
5618

PROTECTIVE
641 2180 5420

SURFACE
1129 4626 4832 5420

SEE ALSO--- CLADDING -- LUBRICANTS

CODING AND PROGRAMMING
48 884 885 909 1627 1628 2210 2431 3744 6524 6525 6527 6624 8304 9157 9899

SEE ALSO--- COMPUTING TECHNIQUES -- LINEAR AND NONLINEAR PROGRAMMING

COLUMNS

ANALYSIS
250 5152 5967 7597

DYNAMIC LOADING
6710

REINFORCED CONCRETE
7738 9507 9509

TESTING
131 5943

ULTIMATE STRENGTH
3550

SEE ALSO--- BEAMS, BEAM-COLUMNS

COMBUSTION
1368 2215 7148

BOUNDARY LAYER
454 3794

BURNING RATE
4660 5460 6260 7153

EXTINGUISHING
2185 2194 3049

FUEL JETS
3809 9880

GASEOUS FUELS
2182 2186 6254 6258

HEAT TRANSFER ASPECTS
653 2188 7150 8045 8046 8879

HYBRID FUELS
1379

HYBRID FUELS, REGRESSION RATES
5461

IGNITION DELAY
8034

INFLAMMABILITY
1381

COMBUSTION *CONTINUED*

INSTABILITY
653 2183 2184 3803 6256 8043 9877

LIQUID DROPLETS
4662 5438 8882

LIQUID FUELS
9838

MECHANISMS
4656

MIXED PROPELLANTS
3045 3810 4660 4661 7153 8042

OSCILLATORY
5456 7149

POWDERED FUELS
1378 3800 3801 3811

PREFLAME REACTIONS
3804 3813 8042

PRODUCTS
3812 4604 4664 6262 7151

PROPELLANTS
1376 2183 2184 3812 6256 6257 6260 8043

PULSATORY
3042 9876

REACTION KINETICS
652 2182 2852 5459

SHOCK WAVES
2187 3797

SOLID FUELS
3048 5460 5461 8881

STABILITY
2190 3045 3801 8879

SUBMERGED
6464

SUPERSONIC
660 3044 3646 5251 9676

TEMPERATURE
3798

TEMPERATURE MEASUREMENT
3800 4664 8035 8045

THERMODYNAMICS
5457 5462 6460

TURBULENT
2057

SEE ALSO--- AFTERBURNERS -- BOILERS -- BOUNDARY LAYER, COMBUSTION -- BURNERS -- CHEMICAL, KINETICS -- COMBUSTORS -- DETONATION AND DEFLAGRATION -- DISSOCIATION -- EXPLOSION, HYDRODYNAMICS -- FLAME -- FLUE GASES -- FUELS -- FURNACES -- IGNITION -- OPTICAL TECHNIQUES -- PROPELLANTS -- ROCKETS -- SPRAYS

COMBUSTION CHAMBERS
5253 6264 8045

TURBINES
2198 3808 6269

SEE ALSO--- COMBUSTORS

COMBUSTORS
658 661 2195 3047 3057 4659 5455 5464 7157 7158
7170 8889 9877 9890 9891

SEE ALSO--- COMBUSTION CHAMBERS

COMPLEX VARIABLES
100 860 4031 4873 6479 7390 7405 8273

SEE ALSO--- CONFORMAL MAPPING -- FREE BOUNDARY

COMPOSITE MATERIALS
116 117 118 119 124 129 130 136 967 2543
2544 2545 2546 2547 2551 3244 3360 3371 3372 3373
4132 4134 4136 4987 4988 4991 5778 6646 6797 8401
8413 8416 9266 9488

REINFORCED
120 121 122 123 125 126 127 128 131 132
133 134 968 970 2541 2542 2548 2552 2553 2555
2556 3366 3367 3368 3369 3370 3374 3375 3378 4003
4131 4133 4135 4140 4986 4989 4990 4992 5779 5780
5782 5784 5912 6645 6647 6650 7534 7535 7536 7537
7538 7540 8410 8411 8417 8418 8419 8422 9260 9261
9262 9263 9264 9265 9269

SEE ALSO--- CREEP, COMPOSITE MATERIALS -- LAMINATES -- VIBRATION, COMPOSITE MATERIALS -- WAVES, COMPOSITES

COMPRESSIBILITY--- *SEE* THERMOPHYSICAL PROPERTIES, EQUATIONS OF STATE

COMPRESSIBLE FLOW--- *SEE* FLOW, COMPRESSIBLE

COMPRESSORS
553 1304 1309 2116 3726 7247 8790

AXIAL
554 555 558 2111 2957 3725 4559 4561 4565 5355
5356 5357 8708 8792 8961 9779 9785

BLADES
8963 9987

CENTRIFUGAL
1269 2954 5353 8791

SEE ALSO--- FLOW, INTERNAL -- SUPERCHARGERS -- TURBINES AND TURBOMACHINERY -- VIBRATION, BLADES

COMPUTERS--- *SEE* COMPUTING TECHNIQUES

COMPUTING TECHNIQUES
59 2159 2432 4051 7305

ANALOG
2160 3002 4055 4056 5695 6897 7418 8306 8334 9150

DIGITAL
63 453 456 887 914 1391 1531 1625 1637 1643
2124 2179 2690 2986 2998 3275 3518 3548 4084 4491
4783 4913 4936 4941 5299 5382 5384 5389 5435 5690
5694 5952 6805 6844 6845 6846 6847 6849 6850 7306
7308 7739 7775 8613 9444 9522

DIGITAL-ANALOG
68 5713 6109 6572

SEE ALSO--- CODING AND PROGRAMMING -- DATA ANALYSIS -- SIMULATION

CONCRETE AND MASONRY
1846

BOND CHARACTERISTICS
358 7730 8595

HYBRID CONSTRUCTION
359

CONCRETE AND MASONRY *CONTINUED*

LIGHTWEIGHT
7728

PAVEMENTS
5969 8600

PIPES
9541

PRECAST
1153 1917

PROPERTIES
313 324 345 356 1894 3543 4343 4347 6860 7731
8594 9513 9515

SHRINKAGE
7726

SLABS
4344 5962 5963 6858

TESTING
360 366 1898 2715 2748 4293 6828 6859

WALLS
9542

SEE ALSO--- BEAMS, REINFORCED CONCRETE -- COLUMNS, REINFORCED CONCRETE -- CREEP, CONCRETE -- DAMS, CONCRETE -- FOUNDATIONS -- JOINTS AND JOINING PROCESSES -- PRESTRESSED CONCRETE -- REINFORCED CONCRETE -- SHELLS, REINFORCED CONCRETE -- WALLS

CONDENSATION
460 767 1354 1355 1356 2847 3021 4633 4634 4635
6237 7115 7125 8021

HIGH SPEED FLOW
9798

SEE ALSO---HEAT TRANSFER, CONDENSATION

CONFORMAL MAPPING
1614 1615 2988 3258 4595 5446 5662 5668 6513 8663
8818 9114

SEE ALSO--- FREE BOUNDARY

CONSOLIDATION AND STABILIZATION OF SOILS--- *SEE* SOIL MECHANICS, CONSOLIDATION

CONTACT PROBLEMS
32 596 794 795 808 952 1565 2357 2358 2359
2360 2361 2362 2525 2989 3204 3754 3962 3969 4116
4599 4871 4872 5100 5614 5696 5949 6441 7334 7341
7342 7401 7526 7527 7987 8223 8399 9822 10075 10080

CONTINUUM MECHANICS
839 840 843 1582 1584 1585 1598 1606 1850 2393
2403 3230 3236 3240 3242 3245 3246 3247 3249 3250
3986 3988 3989 3990 3994 3995 4004 4006 4122 4976
4984 5183 5645 5648 5650 5777 6002 6463 6474 7373
7374 7376 7377 7378 7379 7380 7381 7387 8262 8263
8265 8266 8267 8268 8269 8523 9078 9079 9080 9081
9084 9086 9087 9088 9091

CONSTITUTIVE EQUATIONS
7 13 16 17 119 1079 1583 1587 1588 1589
1590 1592 1593 1594 1599 1600 2392 2394 2398 2401
2402 2404 2840 3237 3238 3239 3243 3987 3992 3996
3998 4001 4003 4843 4849 4853 5651 6001 6097 6466
7371 7372 9592

SEE ALSO--- ELASTICITY -- PLASTICITY -- RHEOLOGY -- VISCOELASTICITY

CONTROL STABILITY
2456 5710 6545 6704 7435 8321 8328

DISCRETE SYSTEMS
537 898 2464 8327 9160 9166

DISTRIBUTED PARAMETER SYSTEMS
537 1656 2458 4905 6550 7445

FORCED SYSTEMS
526 1647 4898 6549 7436 7447

LINEAR SYSTEMS
1650 2453 2464 4902 7443 9165

NONLINEAR SYSTEMS
69 895 898 1641 1642 1649 1653 1781 1782 2449
2451 2452 2457 2459 3279 4060 4062 4904 4906 5707
5711 6544 6547 7440 7441 7444 8322 8326 9163 9164

TIME DELAY SYSTEMS
1638 1656 3282 5708 6548 7442 9161

TIME VARYING SYSTEMS
902 4061 6551 7446 9162

SEE ALSO--- AUTOMATIC CONTROL -- LIMIT CYCLES AND OSCILLATIONS -- STATISTICAL CONTROL THEORY

CONVECTION--- *SEE* HEAT TRANSFER, CONVECTION

CONVEYORS--- *SEE* CHUTES AND CONVEYORS

COOLING TOWER
4291 6238

COPPER AND COPPER ALLOYS
794 950 1565 2131 2369 4812 4974 5776 5906 7334
7336 7532 8225 9248 10073

CORROSION
968 2370 2712 2713 2996 3519 9050

SEE ALSO--- COATINGS AND FILMS, SURFACE -- FATIGUE, CORROSION -- STRESS CORROSION

COUETTE FLOW--- *SEE* FLOW, INCOMPRESSIBLE, COUETTE

COUPLINGS
3572 7622 9360

CRACK PROPAGATION
102 319 1096 1097 1102 1827 1865 1874 2707 2709
2714 3501 3502 3503 3504 3505 3506 3507 3512 3518
4302 4306 5101 5419 5928 6490 6810 6811 6812 6813
6815 6817 7686 7700 8559 8561 8597 9456

EXTENSION
114 963 9256

FRACTURE MECHANICS
5914 5915 5916 5923 5924 5925 5931 5932 6827 7687
7688 7690 7691 7692 8554 8555 8556 8569 9446 9448
9451 9454 9457 9460

INITIATION
303 1851 8560

RESISTANCE
7694

SEE ALSO--- FATIGUE -- STRESS AND STRAIN, CONCENTRATION

CRANES
378 1938 3571

CRAWLERS
7776

CREEP
2870 10018

COMPOSITE MATERIALS
118 6628

CONCRETE
7725 7726 8596 8598 8599 9514

METALS
204 205 950 4118 5769 6625 7516 7533

NONMETALS
2529 2533 2692 4972 5772 7518 8533 8534 9249 9407
9431

RUPTURE
4115 9253

TESTING
204 205 950 1843 5769 6625 7521 7710 9245

THEORY
950 951 1727 1729 2530 5766 5768 6624 6627 6629
6790 7515 7517 8533 9244 9248

SEE ALSO--- BEAMS, CREEP -- BUCKLING, CREEP -- FRACTURE, CREEP -- HIGH TEMPERATURE PROPERTIES OF MATERIALS -- PLATES, CREEP -- SHELLS, CREEP -- STRESS AND STRAIN, RELAXATION -- STRUCTURES, CREEP -- SUPERPLASTICS -- VISCOELASTICITY

CRYOGENICS
1343 2721 3017 6240 8128 8854 8856 8859 8998

SEE ALSO--- HEAT TRANSFER, CRYOGENICS

CRYSTALS AND CRYSTALLOGRAPHY
529 3228 4004 4851 5652 5920 6476 8549 9092

METALS
109 111 113 3962 5615 5773 5903

NONMETALS
1738 2539 5183 6001 6002

SEE ALSO--- DISLOCATION THEORY, CRYSTALS -- VIBRATION, CRYSTALS

CURRENTS

WATER
7312

CURVE FITTING--- *SEE* NUMERICAL ANALYSIS, CURVE FITTING AND SMOOTHING OF DATA

CUTOUTS IN STRUCTURES--- *SEE* STRUCTURES, CUTOUTS

CUTTING PROCESSES
1862 7679

METALS
1861 3497 4289 5391 5910 5911 6800 7681 7682

NONMETALS
5909

THEORY
5098 5099 5907 5910 6801 7680 7681 8549

SEE ALSO--- CHIP FORMATION -- DRILLING -- GRINDING -- MILLING -- SHAPING -- TURNING -- VIBRATION, CHATTER

CYBERNETICS
63 2497

SEE ALSO--- LEARNING SYSTEMS

D

DAMPING CAPACITY OF MATERIALS
2659 3462 4115 8500 8579 9247 9515

SEE ALSO--- IMPACT, DAMPING -- VIBRATION, DAMPING

DAMS
1930 4275 7675 8536 8658

ARCH
1853 1929 2757 5972 8606

BREAK PROBLEM
2100 5331

CONCRETE
1846

EARTH
280 296 1083 2690 4267 5884 5892 7658 7666 9403 9410

SEE ALSO--- COFFERDAMS

DATA ANALYSIS
62 320 323 937 1901 4781 5600 6527 7311 7698 8285 8286 8287 8289

PROCESSING
63 1625 1628 3274 5690 6526 6573

RECORDING
916 6834

REDUCTION
456 1685 3275

SEE ALSO--- AUTOMATIC CONTROL, DISCRETE AND SAMPLED DATA SYSTEMS -- BIOLOGICAL DATA PROCESSING -- GRAVITY WAVES IN LIQUIDS -- NUMERICAL ANALYSIS

DATA PROCESSING--- *SEE* DATA ANALYSIS

DECELERATORS, AERODYNAMIC
4530

BULLETS
2079

PARACHUTES
1938 1942 1943 9961

SEE ALSO--- DRAG AND LIFT

DEFLAGRATION--- *SEE* DETONATION AND DEFLAGRATION

DEFORMATION--- *SEE* STRESS AND STRAIN

DELAY SYSTEMS--- *SEE* TIME DELAY SYSTEMS

DENSITY MEASUREMENT
1546 2962 4573 8812

INDIRECT
1545 5599 6193

SEE ALSO--- OPTICAL TECHNIQUES

DETONATION AND DEFLAGRATION
721 724 725 1371 1377 2179 2181 2276 2279 3879 4654 5453 5540 5541 6284 8705 8878 8953 8955

SEE ALSO--- EXPLOSION -- NUCLEAR DETONATIONS

DEWPOINT
8206 8707

DIAPHRAGMS
2968 5371

DIFFERENCE-DIFFERENTIAL EQUATIONS
6574

SEE ALSO--- EQUATIONS, FUNCTIONAL

DIFFERENCE EQUATIONS
41 42 1907 3552 4029 5384

SEE ALSO--- EQUATIONS, FUNCTIONAL

DIFFERENTIAL ANALYZER--- *SEE* COMPUTING TECHNIQUES

DIFFERENTIAL EQUATIONS, ORDINARY
3182 4090 8723

BNDRY AND EIGENVALUE PROBS, ANALY AND OPERAT MTHD
24 35 845 1605 1617 2411 2415 3253 3256 3261 4030 5675 8284 9102 9111

BNDRY AND EIGENVALUE PROBS, NUMERICAL MTHDS
41 43 1622 2874 4024 4045 4858 6511 7412 8297 8301 9142

BNDRY AND EIGENVALUE PROBS, APPROX MTHDS
857 1607 1608 1610 2414 3254 3255 3260 4039 4863 4864 6481 9096

INITIAL VALUE PROBS, ANALY AND OPERAT MTHDS
18 23 858 1025 3256 3261 4030 4861 5666 7393 8276 9097 9100 9113

INITIAL VALUE PROBS, NUMERICAL MTHDS
1626 2422 2429 4858 4892 5659 5685 6514 7113 7390 7412 7422 8298 9105 9127 9133 9137 9140

INITIAL VALUE PROBS, APPROX MTHDS
1630 3252 3262 5657 5658 6484

NONLINEAR BNDRY AND EIGENVALUE PROBS, ANALY MTHDS
194 247 845 1028 1029 1031 1603 1611 1778 1779 1781 1782 2415 2623 2624 3267 4015 4210 4211 4859 4860 4861 6488 6705 6706 6707 6709 7395 8274 9099 9103

NONLINEAR BNDRY AND EIGENVALUE PROBS, NUM MTHDS
878 879 1619 3273 5832 7392 7412 8302 8303 8736 9137 9142

NONLINEAR BNDRY AND EIGENVALUE PROBS, APPROX MTHD
198 200 201 1604 2039 2043 4016 7420 8275

STABILITY
55 1778 2623 4862 9101

SEE ALSO--- BOUNDARY-VALUE PROBLEMS -- EIGENVALUE PROBLEMS -- EQUATIONS, FUNCTIONAL -- INITIAL-VALUE PROBLEMS -- MATRIX METHODS -- NUMERICAL ANALYSIS

DIFFERENTIAL EQUATIONS, PARTIAL
2057 7857

INITIAL AND MIXED PROBS, ANALY AND OPERAT MTHDS
19 26 27 585 586 588 591 592 638 845 847 1606 1609 1612 1965 2134 2136 2138 3011 3014 3257 3259 3261 3747 3749 4017 4023 4865 4868 5423 5424 5425 5660 5666 6205 6206 6486 7081 7983 8278 8281 8305 8850 9111 9113 9116 9141 9812

INITIAL AND MIXED PROBS, NUMERICAL MTHDS
604 850 1335 2986 3032 4042 5382 5423 6507 6517 7419 8300 9130 9132

INITIAL AND MIXED PROBS, OTHER APPROX MTHDS
46 589 600 852 857 1328 1607 2425 3258 3260 3749 3751 4021 4026 4048 4594 4628 5669 7985 8819

DIFFERENTIAL EQUATIONS, PARTIAL *CONTINUED*

LINEAR BNDRY AND EIGENVALUE PROBS, ANALY MTHDS
28 29 587 588 1613 3232 3261 3756 4019 4022
4023 4025 4039 4866 4873 5662 5663 6086 6195 6482
7085 8283 8294 8645 9106 9107 9108 9109 9115

LINEAR BNDRY AND EIGENVALUE PROBS, NUMERICAL MTHD
1334 2420 2431 3233 3268 4043 4867 4882 4883 4884
4893 5384 5684 6487 7405 8277 9108 9110 9128 9139

LINEAR BNDRY AND EIGENVALUE PROBS, OTHER MTHDS
25 2414 2424 4018 4026 4869 4881 4887 4890 5664
5665 5684 5695 9096 9097 9098

NONLINEAR, ANALYTIC METHODS
623 848 849 853 854 1057 3267 4010 4011 4012
4014 4020 4035 5656 5661 6483 6989 6996 7080 7396
7397 7398 7399 7858 7884 8279 8295 8818 8824 9099
9656

NONLINEAR, NUMERICAL METHODS
498 878 879 3270 3657 3658 4013 4885 4889 4891
5681 9696 9728

STABILITY
25 841 849 4011 4012 4014 4020 4893

SEE ALSO--- DIFFERENTIAL EQUATIONS, ORDINARY -- EQUATIONS, FUNCTIONAL

DIFFRACTION--- *SEE* INTERFACE PHENOMENA

DIFFUSERS
4485 7157 8708 8710

SUBSONIC
1255 2829 5247 6990 7800

SUPERSONIC
4501 4565 6062 8709 8801

SEE ALSO--- INLETS

DIFFUSION
27 823 1999 2123 2332 4015 9132 9735

ATMOSPHERIC
788

MOLECULAR
831 2118 2860 5439 6061 6066 6189

THERMAL
635 4021 4397 4601 5661 7801 8005

SEE ALSO--- MASS TRANSFER, DIFFUSION -- THERMOPHYSICAL PROPERTIES -- TURBULENCE, DIFFUSION

DIGITAL COMPUTERS--- *SEE* COMPUTING TECHNIQUES, DIGITAL

DIMENSIONAL ANALYSIS
590 608 609 1081 1692 1970 3354 4404 5296 6001
7907 7520 9026 9593

SEE ALSO--- MARINE ENGINEERING, SHIP MODEL EXPERIMENTS -- SCALE EFFECT

DISKS
1198 1210 3359 4127

SEE ALSO--- ROTATING DISKS

DISLOCATION THEORY
956 963 3363 3364 3365 4984 9255 9256 9257 9259

CONTINUOUS DISTRIBUTIONS
114 1740 1741 2409 2540 4983 5776 6465

DISLOCATION THEORY *CONTINUED*

CRYSTALS
2538 3361 3362 4982 5775

EDGE
7516

SCREW
4130 4982

SEE ALSO--- CREEP -- CRYSTALS AND CRYSTALLOGRAPHY -- PLASTICITY, PHYSICAL THEORY

DISPERSION
415 1201 1982 2090 2097 3651 3712 5217 5388 6028
7093 7099 8024 8200 9817

DISSOCIATION
471 1236 2020 2844 2851 3648 5259 6059 8033 8700
8836 8881

DISTILLATION
1364

DOCKS
8777

DOPPLER EFFECT
4750 6420

SEE ALSO--- WAVES, DOPPLER EFFECT

DOWNWASH AND UPWASH---*SEE* WINGS, UPWASH AND DOWNWASH

DRAG AND LIFT
616 2921 3630 3705 4445 4526 5265 6007 6009 6071
6133 6980 9748

COMPRESSIBLE FLOW
445 449 476 510 1223 1237 1430 2850 2902 2905
2917 5446 5485 6073 6129 6130 6131 6964 7028 7899
7908 9747

INCOMPRESSIBLE FLOW
7794 8667 8672 8677 8683 9622

MEASUREMENTS
428 1279 1282 1283 2075 2916 3700 4536 4537 5191
5311 7027 7028 7902 7911 7912 9744

VEHICLES
2080

SEE ALSO--- BODIES, FLOW PAST, WITH MODIFIERS -- BOUNDARY LAYER -- HIGH LIFT DEVICES -- MARINE ENGINEERING, SHIP RESISTANCE

DRAWING
311 312 405 2700 2701 5392 5905 5906 6797 7678
8544 8545
SEPTEMBER FEATURE ARTICLE

SEE ALSO--- EXTRUDING -- FORGING -- FORMING -- ROLLING -- SUPERPLASTICS

DRILLING
1570 1842 1951 2693 2694 2695 4282 5091 5897

SEE ALSO--- WELLS

DROPS
431 758 1354 1988 2352 2812 2932 3610 3611 4423
4425 4434 5219 5220 5438 5441 6243 6419 7137 8174
9035 9546 9633 9634 9854 10023

SEE ALSO--- HYDROLOGY, RAINFALL -- IMPINGEMENT OF DROPS -- SPRAYS

DRYING
593 618 1367 5388 7986

DUCTILITY
964 7516
SEPTEMBER FEATURE ARTICLE

SEE ALSO--- FRACTURE, DUCTILE -- STRAIN HARDENING -- SUPERPLASTICS

DUST
755 2354 7286

COLLECTION
2326 3628 9013

METEORITIC
6763 7223

PARTICLE SIZE DETERMINATION
2327 6262 7280 9013

TRANSPORT
404 756 757 2328 3685 6103 6391 6931 7281 7282
8171 8172 9008 9014 9736

DYNAMIC LOADING--- *SEE* UNDER MODIFIER

DYNAMIC PROGRAMMING
1448 1452 2489 4071 5720 6499 6578 7470 9550 9829

SEE ALSO--- OPTIMAL AUTOMATIC CONTROL

DYNAMICS
4086 4087 5735 5741 6524 6596 6597 6598 8375 8379
9894

ANALYSIS TECHNIQUES
46 77 79 84 88 700 939 1692 1693 2500
2501 2503 2504 2507 3124 3308 4040 4939 4941 5146
5732 5733 5734 5737 5738 6513 6598 6599 6600 6601
7225 7479 7480 7483 7589 8381 8621 8635 8938 9104
9202 9203 9206 9211 9572 9966

CABLES AND STRINGS
1442 2768 4214 4234 4839 5173 5836 9952

CONNECTED BODIES
83 84 3108 4207 4942 5830 6734 7487 8385 8445
9209

COORDINATE SYSTEMS
84 4945 5732 5733 5734 7482 9201

ELASTIC BODIES
78 1779 1814 2783 5738 5739 7623 8383 8522 8633
8990 9335 9387

EQUATIONS OF MOTION
80 83 86 88 1701 2502 2503 3194 3308 3310
3570 4939 5733. 5734 5737 5740 7481 7775 8380 8382
9201 9202

MACHINERY
87 396 1050 2648 2649 2650 3570 3571 5994 6894
6899 7763 7764 7765 7769 7770 7772 7773 7774 7775
7776 7777 8384 8633 9360 9568

MECHANICAL SYSTEMS
81 394 2503 3309 3313 5053 5054 5175 5176 5649
5985 6895 7483 7620 7758 7759 7760 7761 7762 7777
8379 8493 8501 9360 9371 9572

NONLINEAR SYSTEMS
79 1696 2082 2507 3313 4088 9205

PARTICLE
2511 3999 5736 5739

QUANTUM MECHANICS
5649 7488

DYNAMICS *CONTINUED*

RIGID BODIES
83 86 1692 1693 1695 1697 1699 2500 2505 2673
3312 4086 4087 4940 4944 5738 6598 6599 6601 7482
7484 7485 7487 7758 8102 8376 8377 8380 8383 8385
9201 9967

STABILITY
79 85 87 701 849 867 1444 1458 1696 1698
1701 1702 2783 3096 3106 3310 3311 3312 4089 4943
7486 8378 8379 8380 9201

STRUCTURES
938 1172 1799 1801 1802 1830 1831 2642 2764 3105
3474 4228 4229 5148 5157 5166 5980 6883 6884 7222
7589 7737 7757 8468 8521 9374 9525

TESTING
82 396 1286 1830 1831 4316 6602 7736

VARIABLE MASS
78 2511 7626 9207

VEHICLES
85 87 99 1937 2506 3194 3710 4539 5307 5316
5851 5979 6134 7614 7615 7915 7916 8501 9205 9755

SEE ALSO--- AIRPLANE, DYNAMIC LOADS -- BIODYNAMICS -- GROUP THEORY -- IMPACT -- IMPULSE -- SOIL MECHANICS, DYNAMICS -- SPACE VEHICLE PROPULSION, VARIABLE MASS DYNAMICS -- SPACE VEHICLE STABILIZATION -- STRUCTURES, DESIGN, EARTHQUAKE RESISTANT -- STRUCTURES, EARTHQUAKE EFFECTS -- VEHICLES, SUSPENSIONS -- VIBRATION

E

EARTH PRESSURE--- *SEE* SOIL MECHANICS, EARTH PRESSURE

EARTHQUAKES--- *SEE* SEISMOLOGY, EARTHQUAKES

EIGENVALUE PROBLEMS
587 2138 4090 4784 4943 6203 6910 7394 7415 7989
8146

SEE ALSO--- BOUNDARY-VALUE PROBLEMS

EJECTORS
461 559 2849 6060 6982 8061 8695 8886

ELASTIC CONSTANTS OF MATERIALS
107 1734 2542 2544 2545 2547 2548 7530 8154 8386
8389 9247

TEST TECHNIQUES
345 2531 2532 5942 7522 8386 8579

SEE ALSO--- MATERIAL TEST TECHNIQUES

ELASTIC FOUNDATIONS
955 6620 6667

BEAMS
141 142 143 974 976 1009 1014 1764 2564 3383
4142 5789 6653 6654 7543 8307 9272 9273

PLATES
154 1751 3414 4154 4155 4156 5745 5826 6667 7556
7566 8307 8395 9217 9282

SHELLS
6672

STRUCTURES
975 7557 9424

ELASTIC WAVES--- *SEE* WAVES, ELASTIC

ELASTICITY
3326 4952 4953 6663 7979 9235 9293

ANISOTROPIC
123 842 1707 1722 1723 1724 1741 1745 2512 2538
3331 4096 7510 7656 8398 8412 9229 9240

CONSTITUTIVE EQUATIONS
91 1590 4946 4954 4976

COUPLE STRESSES
5 6 7 9 15 94 259 1586 1588 1599
1712 2395 2399 2407 2515 3322 3401 3988 4103 5075
6614 7369 7504 9225 9226 9227 9228

FINITE STRAINS
90 842 941 942 1026 1030 1590 1592 1704 1834
2658 3247 3315 3994 4004 4091 4093 4094 4836 4844
4946 4947 4948 5743 5753 6603 7375 7377 7382 7490
7659 8388 9077 9080

GENERAL THEORY
8 92 1586 1588 1705 3314 3327 4101 4102 4108
4109 4114 4116 4837 4838 4844 4853 5647 5652 5753
5755 6656 7370 7384 7387 7501 7502 7511 8264 8266
8391 9082 9083 9218 9221 9223 9224 9242 9258

MECHANICS OF MATERIALS
3489 3490

NONHOMOGENEOUS
129 136 232 233 1709 1710 1726 1747 2513 2517
2519 2524 3238 3338 4095 4098 4957 4960 4965 4966
5761 5763 6609 6613 7493 7497 9230 9232 9233

THREE-DIMENSIONAL, LINEAR
93 136 946 1708 2514 2526 3232 3321 4100 5747
5748 5749 5750 5751 5752 6490 6610 6611 6612 7492
7498 7499 7500 7503 7504 7563 7571 7677 8392 9214
9215 9223 9233

THREE-DIMENSIONAL, NONLINEAR
1079 5744 6604 7508 8387 9214 9215 9216

TWO-DIMENSIONAL, LINEAR
129 808 943 944 945 947 948 1706 1711 2515
2518 2520 2521 2569 3317 3318 3319 3332 4092 4097
4098 4099 4105 4106 4111 4112 4113 4949 4950 4951
4955 4956 4958 4959 4963 5746 5756 6605 6606 6607
6608 6613 6614 7496 7505 7506 7509 8397 9219 9220
9222 9230

TWO-DIMENSIONAL, NONLINEAR
89 1704 4948 7491

SEE ALSO--- ANISOTROPIC MEDIA -- BEAMS -- CONTACT PROBLEMS -- CONTINUUM MECHANICS, CONSTITUTIVE EQUATIONS -- DISLOCATION THEORY -- ENERGY METHODS -- INTERFERENCE FITS -- PLATES -- SHELLS -- STRESS AND STRAIN -- STRUCTURES -- THERMOELASTICITY -- TORSION -- VARIATIONAL METHODS, ELASTICITY

ELASTOMERS
106 2529 4115 6623 6630 8401

ELASTOPLASTICITY
104 339 372 958 960 1166 1612 1733 1737 1739
1856 1893 1902 2536 2736 2739 3347 3349 3349 3351
3352 3356 3357 3358 3359 3494 3553 4121 4125 4356
4975 4977 5159 6643 6866 7511 7524 7525 7529 7659
7672 9259

SEE ALSO--- STRUCTURES, ELASTOPLASTIC ANALYSIS

ELECTRICAL ANALOGIES--- *SEE* ANALOGIES, ELECTRICAL

ELECTRICAL RESISTANCE STRAIN GAGES--- *SEE* GAGES, ELECTRIC RESISTANCE

ELECTRICAL AND ELECTRONIC PROPERTIES
1531 8193

GASES
1549 5598 7973

LIQUIDS
7074 9793

SOLIDS
3361 4853 7387

ELECTRODYNAMICS
4006 4984

ELECTRO-FLUID-DYNAMICS
2223 3832 3855 5399 6281 7074

SEE ALSO--- ENERGY CONVERSION, ELECTRO-GAS-DYNAMIC

ELECTRON

BEAMS
475 1401 4472 4473 6987 9690

ELECTRONIC INSTRUMENTATION--- *SEE* INSTRUMENTS, ELECTRONIC

EMBANKMENTS--- *SEE* DAMS

EMISSIVITY
1363 2156 2161 4626 4627 7109 7110 8849

ENERGY CONVERSION
574 1320 6187 7968

ELECTRO-GAS-DYNAMIC
1395 3070 3855 6185 9942

FUEL CELL
1321 1463 3739 6186 7969 7970 8807

MHD GENERATOR
693 698 699 1416 1421 3085 3831 3848 3856 5487
5488 6302 7171 7174 7192 7193 8072 8090 8091 8895
8926 8929 9909

THERMIONIC
2974 3737 4589

SEE ALSO--- MAGNETO-FLUID-DYNAMICS, ENERGY CONVERSION

ENERGY DISSIPATION
4787 4791 5589 5593

SEE ALSO--- DAMPING CAPACITY OF MATERIALS

ENERGY METHODS
104 951 2756 4969 5770 6911 8803

ENGINES
1385 2192 2193 2202 2204 2215 3046 3818 6265 7163
7344 7987 8054 8340 9886

DIESEL
2203 2366 3809 3817 3819 3820 4386 4811 6890 7425
8052 8142 8886

FREE PISTON
1386

GAS
3138

SPARK IGNITION
659 1380 6192 7152 8034 8051 8053 9436 9885

ENGINES *CONTINUED*

SEE ALSO--- JET ENGINES -- LUBRICATION -- NOISE, ENGINES -- PERFORMANCE, ENGINES -- THERMODYNAMICS, CYCLES, ENGINES SOLAR, ENGINE -- THERMODYNAMICS, CYCLES, ENGINES, TURBINES, ROCKETS -- VIBRATION, ENGINES

ENTROPY
573 1318 3744 7967

ENVIRONMENTAL TEST
6337 10055

EQUATIONS
6508 6509 6513

ALGEBRAIC
40 2421 2425 4055 5675 6489 6506 6519 6521 7413 7421 9131 9142

FUNCTIONAL
2413 2536 3345 5666 5678 6491 6634 6959 7404 7423 8280 9104

SEE ALSO--- DIFFERENCE-DIFFERENTIAL EQUATIONS -- DIFFERENCE EQUATIONS -- INTEGRAL EQUATIONS -- INTEGRO-DIFFERENTIAL EQUATIONS -- NUMERICAL ANALYSIS

EQUATIONS OF STATE--- *SEE* THERMOPHYSICAL PROPERTIES, EQUATIONS OF STATE

EROSION
640 800 1564 2370 3028 3584 3795 4813 8228 9051
MARCH FEATURE ARTICLE

SEE ALSO--- CHANNELS, EROSION -- TURBINES AND TURBOMACHINERY, BLADE EROSION

ERROR
2499

ANALYSIS
910 1537 1538 1544 2434 2735 3951 5947 5971 6841 6844 9444 10049

RANDOM
6445

THEORY
6520

EVAPORATION--- *SEE* MASS TRANSFER, EVAPORATION

EXPERIMENTAL MECHANICS
2 1117 5119 6826 8572 9118

ANALYSIS TECHNIQUES, ELECTRICAL
861 1110 1818 1831 4472 4473 7840 9695

ANALYSIS TECHNIQUES, MECHANICAL
7633

ANALYSIS TECHNIQUES, OPTICAL
1111 1115 1116 1884 2724 2725 2837 3531 4240 4464 5123 6824 6825 6827 6829 6831 7701

DYNAMICS
1831 5877

FLUIDS
455 475 2855 3627 4443 6963 7840 7850 8695 8696 9677

MEASUREMENT TECHNIQUES
336 1124 1128 1130 2417 3265 3477 3634 3644 3655 3913 3916 3917 4316 5122 5239 5257 6763 7706 7707 8573 9475 9528 10108

STRESS ANALYSIS
367 379 1122 2722 4313 4832 4845 5939 8570 8571

EXPERIMENTAL MECHANICS *CONTINUED*
STRESS ANALYSIS *CONTINUED*
9476

SEE ALSO--- COATINGS AND FILMS -- HOLOGRAPHY -- OPTICAL TECHNIQUES -- PHOTOELASTICITY -- PHOTOPLASTICITY -- STRESS AND STRAIN, ANALYSIS

EXPERIMENTAL STRESS ANALYSIS--- *SEE* EXPERIMENTAL MECHANICS, STRESS ANALYSIS

EXPLODING WIRES--- *SEE* WIRES, EXPLODING

EXPLOSION
1373 2280 3038 3881 5544 5598 7235 8847 9477 9478 9484

EFFECTS ON MATERIALS
304 6776

EFFECTS ON STRUCTURES
264 1830 7237

HYDRODYNAMICS
3805 6155 7236 8956 9667 9979

SEE ALSO--- DETONATION AND DEFLAGRATION

EXPLOSIVE FORMING--- *SEE* FORMING, EXPLOSIVE

EXPLOSIVES
722 723 2276 2283 3879 7234 8879 8954 8955

SENSITIVITY TO SHOCK
3878

EXTERNAL FLOW--- *SEE* BODIES, FLOW PAST, WITH MODIFIERS

EXTRUDING
309 964 966 2700 3496 4286 4287 5096 5392 5901 5902 6794 6796 6797 8540 8542 8543 9439
SEPTEMBER FEATURE ARTICLE

SEE ALSO--- DRAWING -- FORGING -- FORMING -- ROLLING -- SUPERPLASTICS

F

FABRIC MECHANICS--- *SEE* TEXTILES

FAILURE
314 1107 1870 1903 5778 7537 8535

PROBABILITY THEORY
9399

SEE ALSO--- FATIGUE, PROBABILITY OF FAILURE

FANS
5352 5354 7067

AXIAL
224 225 554 1308 1309 5347 5356

CENTRIFUGAL
1269 2109 2955 9783 9784 9985

FATIGUE
1901 4306 5618 5929 5931 5945 7698 8562 8567 9454

ACOUSTIC
1876

BEARINGS
2368 5627

BLADES
1435 4284

FATIGUE *CONTINUED*

CORROSION
5117 5118 6820

CRACK DETECTION
8566

DAMAGE
1106 1877 5111 5115 5926 5927

EXPERIMENTAL METHODS
310 1110 1878

FRETTING
5113 5933 7337

GEARS
4380 9559

JOINTS
5116 9581 9591

LOW CYCLE
8568

MACHINE ELEMENTS
320 322 1879 4384 5114 6455 6906

MACHINES
9464

MULTIAXIAL
3508

PROBABILITY OF FAILURE
2711 3510 4700 6816 6906 8564

PROPERTIES OF METALS
321 325 1105 3465 3513 4284 4303 4307 4352 5928
5935 6817 8565 9461

PROPERTIES OF NONMETALS
324 812 4293 4304 4310 9463

ROLLING CONTACT
310 3509

STRUCTURES
1 1109 1871 4301 5934 7697

TESTING
318 319 322 1108 1872 1873 1874 1875 2555 2707
2708 2709 3511 4308 5109 5110 5930 5937 8563

THEORIES
323 2710 3512 3514 3515 3516 3517 4302 4305 4309
5112 5944 7699 9259

THERMAL
4772

SEE ALSO--- CRACK PROPAGATION -- CREEP -- FRACTURE, FATIGUE -- FRETTING -- GEARS, FATIGUE AND WEAR -- MATERIAL TEST TECHNIQUES, CYCLIC -- PROBABILITY THEORY -- TURBINES AND TURBOMACHINERY, FATIGUE

FIBERS AND FABRICS
116 964 2533 2541 2543 2545 3366 3367 3368 3369
3370 3373 3374 3376 4003 4115 4135 4140 4328 4986
4989 5780 5782 5784 6645 6650 7534 7535 7536 7537
7538 7540 7997 8180 8401 8410 8418 8419 8594 9260
9261 9262 9263 9264 9265 9267 9269

FILAMENTS
126 128 312 2543 2552 5912

SEE ALSO--- WHISKERS

FILTERS
1366 3148 7284 7307 10066

FILTRATION
1527 3164 3920 6402 8180 10027 10032 10034 10035

FINISHING
1860

FINITE ELEMENT METHODS
46 122 275 941 983 988 1078 1625 1719 1767
1768 2424 2504 2530 2536 2573 2584 2702 2736 2737
2738 2739 3090 3252 3326 3402 3494 3537 3753 4107
4157 4202 4379 4768 5104 5142 6379 6651 6805 6839
6840 6841 6844 6858 7138 7415 7498 7541 7548 7576
7580 8132 8232 8293 8296 8297 8618 9129 9138 9144
9221 9222 9434 9450 9822

SEE ALSO--- FLOW, COMPRESSIBLE, FINITE ELEMENT METHODS -- FLOW, INCOMPRESSIBLE, FINITE ELEMENT METHODS -- PLATES, FINITE ELEMENT METHODS -- SHELLS, FINITE ELEMENT METHODS -- STRUCTURES, FINITE ELEMENT METHODS

FIRE
2180 9879

STRUCTURES
8041

FLAME
4663 9882

DIFFUSION
2188 3039 3799 3802 5452 7145 8039 8044

INHIBITION
8040

IONIZATION
6255 7146

LAMINAR
7144

PROPAGATION
659 1370 2178 4665 5451 6335 7144 8034

QUENCHING
2181

SOLID PARTICLES
6259

STABILITY
650 7856

TEMPERATURE
9879

TEMPERATURE MEASUREMENT
2198

TURBULENT
651 2177 3039 3040

VELOCITY
2178 6176

VIBRATION
4657

SEE ALSO--- COMBUSTION

FLAME HOLDER
8060

FLAMMABILITY--- *SEE* COMBUSTION, INFLAMMABILITY

FLIGHT
7026

SIMULATION
2083 9751

SEE ALSO--- PERFORMANCE, FLIGHT

FLIGHT TESTING

AIRPLANES
520 521 522 523 1288 1315 2082 2083 2922 2929
2930 4540 4541 6121 7037 8769

FLIGHT TEST INSTRUMENTS
2087

MISSILES
2924 7036 7079 7903 9752 9753 9754

SEE ALSO--- INSTRUMENTS

FLOCULATION
528 10024

FLOODS--- *SEE* STREAMS, NATURAL

FLOW
4882

EXPANSION INTO VACUUM
1238 2028 2037 3651 4462 4464 4468 5372 6244 6987
9691 9694

HEAT SOURCES
610 2990 2992

PISTON DRIVEN
458 563 1230 2022 3615 3773 3774 4465 5235 9674

SEPARATION
598 2819 3037 8696 8697 8862 9614 9640 9642

STRATIFIED
1972 3071 5203 8656 8657 8672 8747 9773

TWO PHASE
460 767 2025 2144 2813 2847 2848 3591 3612 3613
3614 3991 4424 4448 5218 5239 6055 7114 7118 7994
7995 7999 8695 8707 8822 8865 9612 9670 9829 9861

FLOW, COMPRESSIBLE
2 444 451 1234 1239 2033 2049 2825 2827 3240
3594 3650 4415 5236 6959 6971 6973 6984 6985 7834
7852 7853 7855 9673 9679 9684 9687

CIRCULATION
4436 5237

EQUATIONS
1218 3626 3653 3999 8267 9666 9685 9689

FINITE ELEMENT METHODS
2906 6993 9686

HYPERSONIC
454 474 614 615 1222 2017 2836 2881 3631 3637
3703 4444 4446 4463 4519 6048 6049 6072 6222 6966
6967 7021 7103 7847 7850 7869 7899 7902 7903 7906
7908 8701 8722 9663 9664 9665 9695 9740

HYPERSONIC, AXISYMMETRIC
452 455 515 1220 1273 2015 2016 2837 2914 3648
3667 4443 4445 4455 4456 5277 5310 6045 8709

HYPERSONIC, TWO-DIMENSIONAL
472 475 850 2845 2858 2859 2902 4464 7843 7870
9662

IRROTATIONAL
6044

FLOW, COMPRESSIBLE *CONTINUED*

MAGNETO-FLUID-DYNAMIC
1392 1394 2219 3847 6280 7173 8897 8898 8899 8900
8919 8920 9105 9905 9910 9911 9941

STAGNATION POINT
1223 1342 2013 2831 3665 6049 6057 8828 8841

STABILITY
457 9913

STRATIFIED
2911 3650 3946 9674 9728

SUBSONIC
1428 2071 2826 2830 3252 4435 5239 5247 6308 7840
7945

SUPERSONIC
462 463 1228 1424 2230 2841 3641 4440 4451 4452
4461 4742 5251 6976 6977 7839 7841 7854 8363 8696
8699 9115 9659 9660 9661 9672 9675 9680 9741

SUPERSONIC, AXISYMMETRIC
450 468 470 1233 1266 1426 2026 2057 2835 2911
3640 4441 4449 4739 5254 6963 6974 6981

SUPERSONIC, ONE-DIMENSIONAL
3773 9851

SUPERSONIC, TWO-DIMENSIONAL
1271 2021 2833 2838 2869 2947 3627 3698 3829 4472
4564 5242 5256 6050 6115 6119 6975 7837 7849 7851
8712 9377

THREE-DIMENSIONAL
449 2948 3698 4559 5697 6046 6047 6117 6126 9657
9658

TRANSONIC
447 548 1219 1264 2010 2024 2070 2903 3643 4518
4522 4558 5238 5302 6111 6960 6961 6962 6999 9656

TWO-DIMENSIONAL
446 1217 2856 3639 4437 4438 4439 4789 7831 7835
7838

VISCOUS
448 465 1216 1622 2009 2022 2032 2828 3234 3242
3703 4020 4442 4450 4496 5255 5283 7831 7836 7842
8716

SEE ALSO--- AEROTHERMOACOUSTICS --
AEROTHERMOCHEMISTRY --
AERODYNAMICS -- BODIES, COMPRESSIBLE
FLOW PAST -- BOUNDARY LAYER, COMPRESSIBLE FLOW --
CONDENSATION, HIGH SPEED FLOW -- DETONATION AND
DEFLAGRATION -- DIFFUSERS -- DRAG AND LIFT,
COMPRESSIBLE FLOW -- FREE BOUNDARY,
HODOGRAPH METHODS -- HEAT TRANSFER -- JETS --
LAMINAR FLOW, COMPRESSIBLE -- NOZZLES,
COMPRESSIBLE FLOW -- OPTICAL TECHNIQUES --
OSCILLATIONS IN FLUIDS -- PIPE FLOW,
COMPRESSIBLE -- POROUS MEDIA, COMPRESSIBLE FLUID
FLOW -- RAREFIED GASES -- SECONDARY FLOW,
COMPRESSIBLE -- SHOCK WAVES IN FLUIDS --
TEMPERATURE RECOVERY -- UNSTEADY FLOW,
COMPRESSIBLE

FLOW, INCOMPRESSIBLE
2 1462 4415 9674

CELLULAR
602 689 1216 1333 1334 2991 3003 3769 5395 5396
5408 5409 6214 6215 8001 8835 8837 8839 9833 9834

CIRCULATION
5203

COUETTE
1215 2061 2143 2235 3069 3842 5187 5196 5263 5264

FLOW, INCOMPRESSIBLE *CONTINUED*
COUETTE *CONTINUED*
5292 5469 6001 6019 6040 6099 6913 7091 7796 8679
8693 8832 9840

EQUATIONS
423 429 439 441 1197 2801 2809 3235 3602 3608
4420 5207 5208 5215 5230 6020 6043 6942 6944 6956
8669 8673 8682

EQUATIONS, LINEARIZED
3606 9775

FINITE ELEMENT METHODS
4826 5210 6943 8232

IRROTATIONAL
425 1188 1192 4523

NON-NEWTONIAN
1598 1965 1968 2408 2781 5187 6000 6910 6911 6913
6915 7371 7788 7830 8646 9076 9092 9594 10081

NONVISCOUS
423 1192 3076 3591 3596 3597 3600 9925

NONVISCOUS, ROTATIONAL
546 550 1189 4679 4681 5472 6147 7813 9612

NONVISCOUS, STRATIFIED
429 426 4398 8071

ORIFICES
425 1187 7825 7932

PARTICULATE
1518 1519 1520 2327 2328 2408 3612 3914 4840 5580
5653 5655 6218 6391 6392 6393 8171 8172 8173 9008
9014 9678 10024

POISEUILLE
1213 1215 1963 3610 3611 3613 5186 5262 6915 7816
7820 7992 8832 9767 9840

SEPARATION
412 3037 4416 4790 6204 8833 8862 9642 9795 9842
9844

STABILITY
426 437 441 606 1209 1213 1963 1975 2089 2147
2148 2150 2221 2781 2821 2822 3005 3074 3596 3597
3607 3625 3761 3762 3768 3769 3991 4600 4602 4607
4611 5187 5204 5209 5227 5229 5394 5402 5405 5412
5478 6012 6028 6039 6213 6215 6227 6910 6911 6915
6954 6955 7043 7044 7096 7118 7815 7828 7926 7933
8000 8001 8005 8691 8692 8776 8778 8835 8836 8837
8838 8839 9594 9647 9649 9767 9773 9833 9835 9839
9915

VISCOUS
429 453 538 853 1197 1198 1209 1611 1622 1993
1995 1996 1997 2038 2533 2794 2801 2802 2805 2806
2809 2824 3056 3602 3607 3608 3830 4022 4870 4890
6020 6024 6043 6277 6944 6948 7172 7179 7367 7822
7833 7864 7871 8094 9631 9906 9908 9912

VISCOUS, HEAT ADDITION
2390 2992 4419

VISCOUS, HIGH VISCOSITY
1196

VISCOUS, LINEARIZED
3606 3623 4418 4434 6041 8676

VISCOUS, MASS ADDITION
2992

VISCOUS, MULTIFLUID
433 1999 2877 3623 8778

FLOW, INCOMPRESSIBLE *CONTINUED*

VISCOUS, MULTIPHASE
1399 2792 2796 2813 3579 5219 5220 6027 6028 6212
6950 6953 7820 7823 7825

VISCOUS, ROTATING
428 438 440 1201 2089 2803 2857 2898 2957 4408
4416 4417 4418 5213 6041 6227 6290 7088 7189 7832
8003 8692 8693 8913 8915 8917 8922 9612 9626 9835
9907 9922

VISCOUS, SECONDARY
435 1204 2997 3004 3616 6211 6226 7100 7826 7829
8692 9828

VISCOUS, SMALL REYNOLDS NUMBER
427 1992 1998 2008 2089 3599 3603 3664 4422 4423
4426 4434 5210 5211 5265 6022 6023 6025 6026 6990
6991 6999 7806 7816 7824 8669 8677 8681 8694 9622
9623 9626 9627 9649 9825 9834

VISCOUS, STRATIFIED
439 1203 1972 2781 2798 2804 2867 2868 4397 4398
4399 5140 5221 5224 5227 5231 6006 6021 6033 6920
6921 6926 7007 7828 8672 8776 9601 9626 9636 9765

VISCOUS, VARIABLE FLUID PROPERTIES
3664

SEE ALSO--- BODIES, INCOMPRESSIBLE FLOW PAST -- BOUNDARY LAYER, INCOMPRESSIBLE FLOW -- CAVITATION -- DRAG AND LIFT, INCOMPRESSIBLE FLOW -- FLOW MEASUREMENT -- HYDRAULICS -- HYDROLOGY -- JETS -- LAMINAR FLOW, INCOMPRESSIBLE -- MULTIPHASE FLOW -- NOZZLES, INCOMPRESSIBLE FLOW -- OSCILLATIONS IN FLUIDS -- PIPE FLOW, INCOMPRESSIBLE -- POROUS MEDIA, INCOMPRESSIBLE FLUID FLOW -- POTENTIAL THEORY, FLUID FLOW -- ROTATING CYLINDERS, FLOW BETWEEN -- ROTATING DISKS, FLOW BETWEEN -- ROTATIONAL FLOW -- SECONDARY FLOW, INCOMPRESSIBLE -- TURBULENCE -- UNSTEADY FLOW, INCOMPRESSIBLE -- VORTEX FLOW -- WAKES -- WINGS, INCOMPRESSIBLE FLOW

FLOW, INTERNAL
444 545 555 557 562 1216 2005 2015 2027 2033
2802 2804 2825 2827 2829 2997 3609 3641 4554 5234
5338 5355 5356 6162 6979 7814 7852 8671 8690 9614
9657 9765 9777

ANNULAR PASSAGES
437 477 601 1260 2172 3068 3069 3732 4421 4559
4609 6027 6198 6276 6279 6952 7202 7812 7989 8006
8663 8708 9625 9831 9837

DUCTS, CONSTANT AREA
406 446 1218 1235 1991 2032 2142 2145 2155 2172
2896 2897 2993 2994 2999 3023 3759 3760 3787 3830
4605 4617 4619 5229 5444 6000 6064 6199 6200 6287
6946 6985 7089 7821 7988 7992 8645 8713 9642 9650
9655 9670 9693

DUCTS, VARIABLE AREA
447 464 465 598 1231 1233 1331 1968 1999 2024
2025 2031 2057 2807 2847 2848 2849 3642 3643 3690
4450 4453 4454 4461 5247 5249 5250 5253 5258 6910
6977 6983 7855 8705 8710 9654

PARALLEL PLATES
1201 1210 2034 2036 2061 2999 3623 3768 3770 4419
4637 5216 5262 5264 5393 6023 6040 6445 7091 7105
8679 8720 8721 8832 8840 9690 9819 9825

ROTATING PIPES
533 611 1336 1337 2857 5325 8003 8691

FLOW MEASUREMENT
455 565 1987 3583 3655 4388 4389 4431 4645 5190
5194 6030 6925 6965 7152 7807 7823 8749 8893

FLOW MEASUREMENT *CONTINUED*

ELECTRONICS
543 4574 6456 7355 7356

MAGNETO-FLUID-DYNAMIC
1580 3066 3227 4304 6456 7355 7356 7363 8093 9945

NOZZLES
3580 6924

ORIFICES
1986 2825 4400 4405 4424 6006 6924 6925 6927 7852 9794

PROPELLER TYPE
6169 6933

ULTRASONIC
5367 6107

VARIABLE AREA
6924

VOLUMETRIC METERS
2065 6927

SEE ALSO--- HOLOGRAPHY -- HYDRAULIC STRUCTURES, WEIRS -- PRESSURE MEASUREMENT

FLOW IN THIN FILMS---*SEE* THIN FILMS, FLOW

FLOW THROUGH GRIDS AND SCREENS--- *SEE* GRIDS AND SCREENS, FLOW THROUGH

FLOW THROUGH POROUS MEDIA--- *SEE* POROUS MEDIA, WITH MODIFIERS

FLOW VISUALIZATION--- *SEE* OPTICAL TECHNIQUES, FLOW VISUALIZATION

FLUE GASES
8047

SEE ALSO--- AIR PREHEATERS

FLUID POWER
64 560 6166 8793

CONTROL
7434 7438 8342

CONVERSION
66

TRANSMISSION
65 7066

FLUIDICS
254 1671 3621 4400 4918 8257 9175

FLUIDIZED BEDS--- *SEE* BED, FLUIDIZED

FLUTTER
1423 4444 7147

HELICOPTER ROTORS
2245 4698 7144

PANELS
1425 1426 1427 2246 2247 4700 5058 6309 6310 6312 6745 7200 8096 8097 8098 8099 8934

PANEL STRUCTURES
3087 3089 8101 8933

PROPELLERS
8935

SHELLS
1425 1426 4701 7201 8100 8932 9948

FLUTTER *CONTINUED*

STABILITY
5445 8099 9949

STRUCTURES
9952

SUPERSONIC FLOW
1424 3088 3090 4649 6310 6311 6313 8097 8100 8101

TAILS AND CONTROL SURFACES
4694 5443 5444 9949

TESTING
9948

TURBOMACHINES
8935 9951

WINGS
3088 4697 6309 7019

SEE ALSO--- HYDROFOILS, FLUTTER -- OSCILLATIONS IN FLUIDS -- UNSTEADY FLOW -- VIBRATION, AIRPLANES

FORGING
1858 5095 5905 9936

SEE ALSO--- DRAWING -- EXTRUDING -- FORMING -- ROLLING

FORMING
1632 4115 8543

EXPLOSIVE
6802

METAL
308 966 1857 2696 2699 3495 4285 5391 5900 6194 6692 7333 9057 9435 9438

SEE ALSO--- DRAWING -- EXTRUDING -- FORGING -- JOINTS AND JOINING PROCESSES, EXPLOSIVELY FORMED -- ROLLING

FOUNDATIONS
1800 1846 2655 5085 5886 5887 5888 6780 6787 6882 7652 7662 7744 8526

DEEP FOUNDATIONS
3487

FAILURES
1073

FOOTINGS
295 1076 1840 1845 2681 2683 3478 3483 3484 6774 6774 6781 6784 6785

MACHINE FOUNDATIONS
232 1051 1805 5154 7663

PIERS
293 417 5896 8529 9534

PILES
292 294 416 1841 1848 2682 2684 2685 2686 3485 3486 4268 5082 5084 5086 5087 5088 5889 5890 5891 6782 6783 6784 7664 7665 8528 8529 9419 9424 9425 9535

SETTLEMENTS
1847 2681 3484 3485 4263 5890 5891 7657 7668 9418 9419 9423

SHALLOW FOUNDATIONS
293 9418 9420

SHEET PILES
9422

FOUNDATIONS *CONTINUED*

SEE ALSO--- ELASTIC FOUNDATIONS -- GRILLAGES -- REINFORCED CONCRETE, SLABS -- SOIL MECHANICS -- VIBRATION, FOUNDATIONS

FOURIER SERIES--- *SEE* SERIES EXPANSION AND OTHER APPROXIMATIONS, FOURIER SERIES

FRACTURE
317 1087 1091 1094 1102 1103 1866 1870 2706 2707 3520 4299 4309 6832 7689 9447 9462

ANALYSIS
314 1097 1098 1099 1851 2404 2702 4243 4297 5101 5778 7538 7649 7684 9432

BRITTLE
1867 1868 1869 3499 3500 4290 5102 5103 5917 6806 6808 6809 9449 9452

CREEP
2533

DUCTILE
110 3495 4298 4974 5922 7693 9253

FATIGUE
1104 4291 7685

MECHANICS
315 316 1088 1089 1090 1095 1100 1827 2703 2704 2705 3498 3504 3507 3522 4292 5104 5105 5106 5107 5110 5913 5914 5915 5916 5918 5921 5923 5924 5925 6642 6805 6807 6819 9450

SPALLATION
1069 3476

TESTING
1108 1865 1880 1881 2714 3491 3493 4115 4293 4295 4296 6823 8414 8525 8555 9453 9485

TOUGHNESS
110 1101 1109 3521 4294 8557

SEE ALSO--- CRACK PROPOGATION -- FATIGUE -- MATERIAL TEST TECHNIQUES -- STRESS CORROSION CRACKING -- STRESS RUPTURE

FRAMES AND BENTS
4339

ANALYSIS
208 1923 2644 3453 3455 3463 4229 5050 5051 5148 5967 5968 6531 7718

DESIGN
5159

MULTISTORY
1158 7733 7750 8615 9543

SPACE
3552 3553 4229 4353 4355 5050 5051

STABILITY
214

TESTING
234

SEE ALSO--- BUCKLING, FRAMES -- LIMIT DESIGN AND ANALYSIS, FRAMES AND BENTS -- VIBRATION, STRUCTURES

FREE BOUNDARY
586 626 1556 5611

CAVITIES
434 3200 5611 6429 8219

FREE BOUNDARY *CONTINUED*

FLOW
424 1559 1978 3456 3458 4406 4411 4413 6937

HODOGRAPH METHODS
4412

SEE ALSO--- CHANNELS, OPEN, FLOW

FREE CONVECTION--- *SEE* HEAT TRANSFER, CONVECTION

FREE-MOLECULE FLOW--- *SEE* RAREFIED GASES

FREE SURFACE---*SEE* FREE BOUNDARY

FREEZING
3012 3014 3015 3777 5423 5424 5425 6232 7111 7113 8851 8852

FREON
3740 7975 8017 8853

FRETTING
7337

SEE ALSO--- CORROSION -- FATIGUE, FRETTING -- WEAR

FRICTION
792 809 1561 1572 3585 7341

ROLLING, SOLID AND SOLID
796 808 2374 3206 4817 4818 5628 6441 6445 7342 8233 8234 10080 10082

SLIDING, SOLID AND FLUID
796 802 1562 1571 3964 3965 4269 4384 5621 5624 7343 7345 7346 8238 10078

SLIDING, SOLID AND SOLID
791 793 794 795 1562 1563 1565 1567 1569 2362 2369 2689 3203 3204 3205 3206 3213 3968 4278 4809 4810 4815 5096 5613 5614 5615 5616 5617 6432 6433 6434 7333 7334 7335 7336 7337 7342 8175 8220 8222 8223 8224 8225 9061 9405 10073 10074 10075

SEE ALSO--- DAMPING CAPACITY OF MATERIALS

FUELS

ADDITIVES
3817

GASEOUS
1380

LIQUID
1431 4658

NUCLEAR
3062 7165 7999 8820 8853

PETROLEUM
1380

REGRESSION RATE
4355

SOLID
8823

SEE ALSO--- COMBUSTION, GASEOUS FUELS -- COMBUSTION, HYBRID FUELS -- COMBUSTION, LIQUID FUELS -- COMBUSTION, POWDERED FUELS -- COMBUSTION, SOLID FUELS -- ROCKETS, GASEOUS FUEL -- ROCKETS, LIQUID FUEL -- ROCKETS SOLID FUEL

FUEL SLOSHING--- *SEE* LIQUID SLOSHING

FURNACES
618 641 1375 2189 4622 7106 8846

SEE ALSO--- HEAT TRANSFER, FURNACES

G

GAGES
1128

DISPLACEMENT
346 4317 5127

ELECTRIC RESISTANCE
333 1121 2721 3526 5125 5939

EXTENSOMETERS
8157

HEAT TRANSFER
8027 8869

STRAIN
2284 3527 3528 3529 4314 4318 7660 7707

TORQUE
347

SEE ALSO--- PRESSURE MEASUREMENT, GAGES -- THERMOCOUPLES -- TRANSDUCERS

GAS DYNAMICS--- *SEE* FLOW, COMPRESSIBLE

GAS TURBINES--- *SEE* TURBINES AND TURBOMACHINERY, GAS

GASES--- *SEE* UNDER MODIFIER

GATES, HYDRAULIC--- *SEE* VALVES AND GATES, HYDRAULIC

GEARS
1572 3562 3563 7762 8625 9562

DESIGN
385 386 387 1178 1944 1945 2773 2774 3561 4382
5986 6891 7768 7769 7770 8625 8627 8628 9551 9561

FATIGUE AND WEAR
388 7338 8626 9559

KINEMATICS
384 1179 1943 1944 3561 4381 4383 7769 8627 8633
9558

LOADS
4380 6892 7767 8626 9559 9560 9561

TRAIN
2773 5995 6890 6901 7770 8625 8628 9577

SEE ALSO--- FATIGUE, GEARS -- LANDING GEARS -- VIBRATION, GEARS -- WEAR

GEOPHYSICS
1531 1535 1607 2333 2345 2940 3165 3932 3935 5325
5410 5643 6219 6410 6411 6413 6414 6416 6526 7302
7405 7983 8000 8188 8189 8193 9017 9865 10042 10047

EXPLORATION
1532 1533 1534 1536 1537 1538 3169 3925 3926 3927
3937 6415 8194 10041 10043

SEE ALSO--- MASCON

GIRDERS
140 2749 2755 5950 6866 9529

CURVED
367 368 1159

PLATE
4301 5973

SEE ALSO--- BEAMS

GLASS
380 4310 6823 9473

GLASS FIBERS
1140 5196

GLIDERS
5318 7331 8766

GRANULAR MEDIA
15 754 2325 4129 4981 6637 6772 10025

FLOW OF
1520 5580 7281 7282 8171

FLOW THROUGH
3757 7666 9404 9410

SEE ALSO--- HEAT TRANSFER, PARTICLE-FLUID FLOWS -- PARTICLES -- POROUS MEDIA -- WAVES, GRANULAR MEDIA

GRAPHICAL METHODS
6513 7945 9151

GRAPHITE
793 2537 4115 4627 5909 6274 8815

GRAVIMETRICS
9211 9212 9213

GRAVITY WAVES IN LIQUIDS
2342 3173 4401 4787

BEACHES
1295 5326 6149 6929

BORE
536 4552 6138 9605 9764

BOTTOM DISCONTINUITIES
2102 9603 9607

BOTTOM IRREGULARITIES
2936 7047 7052

BREAKING
536 5326 5327 6148 6151 7046

BREAKWATER
421 5333 6152 8773

CAPILLARY
532 2093 3716 3717 6153 7932

DIFFRACTION
1300 3711 4544 5333 5340 8772 8777

EFFECT OF SURFACE BARRIER
1300 2098 3714 4548 5195 5323 5340 6141 7054 8773
8777 9771

FINITE DEPTH
1293 2094 4547 5322 9769

HYDRAULIC JUMP
2100 3584 4393 6005 6916 6919 8654

INTERNAL
2095 3711 4786 5334 6140 6142 7931

GRAVITY WAVES IN LIQUIDS *CONTINUED*

NONLINEAR THEORY
2095 2096 2098 2938 2939 3713 3717 3956 4391 6153
6922 7048 7939 9762

OCEAN
3174 3941 3942 3943 4546 5323 8788 10054

OPEN CHANNELS
2102 3589 4552 5543 6158 8652 8781 9603 9605

ROLL WAVES
8779

ROTATING FLUID
2094 6005 8771 8774 9643

SHALLOW WATER
2103 2940 3714 3716 4398 5189 6157 8771 9764 9770

SHEAR FLOW
4786 9770

SLOPING BOTTOM
5329 5334 6138 6148 7047 9769

SOLITARY
3712 5326 5329 7929 8774 9770

STANDING WAVES
1291 3713 4548 7930 9766

STRATIFIED
433 1540 2092 2097 2101 2935 4784 5334 5593 6140
7931 8195 9024 9772

SURFACE WAVE PROFILE
3718 4393 4396 4431 7042

SWELL
3943

TRANSIENT
1295

TSUNAMI
781 2333 2343 3939 4545

TWO-DIMENSIONAL
1284 1300 1981 2939 3592 6144 7924 7929

VISCOUS EFFECTS
530 1293 2092 3715 5605 9762

WAVE ABSORBER
5589 8782

WAVEMAKER
1289 1291 2936 7939

WAVEMAKING RESISTANCE
530 3201 3959 4553 5606 6922

WIND GENERATED
1296 2101 3722 3940 4546 4549 5324 6150 7311 8196
8775 10051 10053 10059

SEE ALSO--- DOCKS -- HYDRAULIC STRUCTURES, BREAKWATER

GRIDS AND SCREENS

FLOW THROUGH
7005 7008 8744 9720 9721

GRILLAGES
4993 7665 7734

SEE ALSO--- VIBRATION, GRILLAGES

GRINDING
4288 5386 6390 7683 8548 8551 9443

SEE ALSO--- CUTTING PROCESSES -- FINISHING

GROUND EFFECT MACHINES
1437 3096 4714 4715

SEE ALSO--- AERODYNAMIC INTERFERENCE, GROUND EFFECT -- HYDROFOILS, CRAFT -- STOL -- VTOL

GROUND WATER--- *SEE* HYDROLOGY, GROUNDWATER

GROUP THEORY
1399 4489 8914

GUIDANCE SYSTEMS
5716

AIRCRAFT
4712

INERTIAL
4078 4916 4917 9204

STABILITY
4089

SEE ALSO--- SPACE VEHICLE NAVIGATION AND GUIDANCE

GUIDED MISSILES--- *SEE* MISSILES

GUNS
8958

GUST LOADS
527 4076 5321 5597 6136 6137 7918 7919 7920 7921
8769 8936 9760 9761 9953

SEE ALSO--- AIRPLANE, DYNAMIC LOADS

GYROSCOPES
918 1183 3313 4442 8338 9201 9204 9208 9209 9210
9759

EXPERIMENTAL MEASUREMENTS
81 82 564 2087

OSCILLATION
1700 5031 7486

ROTARY
83 932 1042 4087 5742 6602 7484 7485 7487 8380
8382

STABILITY
1697 2508 3311 4078

SEE ALSO--- GUIDANCE SYSTEMS, INERTIAL -- SPACE VEHICLE NAVIGATION AND GUIDANCE

H

HARBORS
4557 5323 5333 6010 7930 8659 9766

HARDENING
1860

HARDNESS---*SEE* MATERIAL TEST TECHNIQUES, HARDNESS

HEARING---*SEE* BIOMECHANICS, HEARING

HEAT CONDUCTION--- *SEE* HEAT TRANSFER, CONDUCTION

HEAT CONVECTION--- *SEE* HEAT TRANSFER, CONVECTION

HEAT EXCHANGERS
595 1327 1359 1362 1367 2171 3022 3023 3024 3025
3784 3788 3790 4636 4637 4638 4642 5385 5400 5433
5435 6239 6240 6241 6242 7083 7092 8025 8863 8868
9861 9862

CROSSFLOW
1329 1357 1361 5434 8862

NUCLEAR REACTORS
1332

UNSTEADY STATE
6383

SEE ALSO--- AIR PREHEATERS -- BOILERS

HEAT PIPES
668 5521

HEAT RADIATION--- *SEE* HEAT TRANSFER, RADIATION

HEAT TRANSFER
595 618 1467 1594 8104 9034 9664

BIOLOGICAL
628 2175 3981

BLADES, TURBOMACHINERY
1337 4610 5414 6250 7084 7085 9841 9889

BOILING, FORCED CONVECTION
1330 1345 1349 1350 1351 1352 1360 2167 2168 2169
2170 2172 3017 3018 3019 3022 3759 3771 3782 4613
4629 4631 4639 4706 5428 6235 6236 7114 7124 8006
8017 8019 8854 8855 8858 8867 9855 9857

BOILING, POOL
629 630 631 1347 1348 1353 2165 2166 3016 3020
3778 3779 3780 4613 4629 4630 4632 5427 5429 5430
6233 6234 7101 7116 7117 7119 7121 7122 7123 8016
8018 8020 8856 8857 8858 8859 8871 9858 9859

BOUNDARY LAYER
483 597 613 639 642 647 1338 2134 2149 2995
3000 3001 3032 3035 3183 3679 3765 3766 3792 3793
3794 4608 4612 4615 4616 4648 4649 5392 5393 5399
5404 5411 5413 5442 5443 5445 6148 6207 6211 6216
6220 7095 7097 7098 7101 7126 7138 7993 8830 8877
9869

CHEMICAL REACTION PRESENT
640 642 643 644 645 646 648 2143 3029 3032
3036 3794 3795 4604 5440 5443 6245 6246 8029 8033
8836 8860 9838 9868

COMBINED FORCED AND FREE CONVECTION
597 609 2145 2990 3004 3755 3770 4602 4608 5387
5407 5411 7097 7099 9830 9831 9844 9845

CONDENSATION
1349 1354 1355 1356 4633 4634 4635 4641 5431 5432
6237 7115 7126 7863 8021 8022 8861 9854 9860

CONDENSATION, NONCONDENSABLES
3021 4641 7125 8021

CONDUCTION, INTERNAL SOURCES
618 2139 3747 3749 3750 4595 5383 5386 5433 6197
7081 7982 8820 9812 9816

CONDUCTION, NUMERICAL METHODS
46 2986 2998 3012 3015 3032 3745 3751 3753 3791
4042 4594 4628 5382 5384 6194 6202 6232 6246 6482
7986 8277 8281 8825 9148 9149 9815 9822

CONDUCTION, STEADY
621 634 1366 2135 2139 2988 2989 2998 3035 3745
3746 3750 3752 3753 4595 4597 4598 4599 4606 4621
4626 4644 5383 5384 5385 5386 5420 5431 6195 6196

HEAT TRANSFER *CONTINUED*
CONDUCTION, STEADY *CONTINUED*
6197 6202 7085 7102 7395 7984 8030 8818 8821 8826
8832 8858 8874 9821 9847

CONDUCTION, UNSTEADY
585 586 587 588 589 590 591 592 600 620
623 626 627 638 640 1328 1362 2134 2136 2137
2138 2140 2141 2157 2158 2174 2986 2987 3010 3011
3012 3013 3014 3015 3028 3032 3114 3747 3749 3751
3752 3757 3776 3777 3785 3786 3786 3790 3791 4594
4596 4597 4598 4599 4623 4628 5382 5386 5423 5424
5425 6194 6206 6209 6232 6246 7080 7081 7082 7111
7113 7137 7379 7982 7983 7985 7986 8029 8268 8819
8820 8824 8825 8827 8850 8851 8852 8874 8877 9812
9813 9814 9815 9816 9817 9818 9820 9822 9866 9867

CONTACT RESISTANCE
596 2989 3014 3754 4599 9822

CONVECTION, FORCED
649 1357 1361 2992 3024 3025 3756 3758 5389 5434
6207 6209 6212 6243 7087 7994 7995

CONVECTION, FORCED, GASES
448 603 608 1217 1329 1331 1338 1358 2146 2153
2154 3023 3029 3030 3031 3034 3036 3742 3795 4604
4605 4614 4616 4625 4635 4649 5391 5416 5417 5421
5442 5447 6201 6222 6223 6224 6230 6231 6245 6246
6247 6248 6250 6243 6460 7083 7089 7090 7103 7138
7141 7836 7990 7993 7997 7998 8007 8008 8028 8828
8833 8841 8845 8848 9824 9830 9842 9845 9867 9871

CONVECTION, FORCED, LAMINAR
599 1365 2155 2173 2993 2994 3759 3760 3787 3790
4605 4606 4617 4618 4619 4636 5390 5436 6200 6203
6205 6210 6226 6992 7083 7091 7104 7105 7989 7990
7991 7992 7993 7997 8830 8832 8840 8860 8876 8877
9819 9825 9828

CONVECTION, FORCED, LIQUIDS
616 626 633 2155 3759 4613 4618 6218 6221 6226
6241 7102 7104 7105 8010 8833 9819 9823

CONVECTION, FORCED, TRANSITION
615 1331 1336 1338 4614 8008

CONVECTION, FORCED, TURBULENT
598 612 616 1260 1352 1358 2142 2995 2997 4636
5393 5433 6198 6199 6200 6204 6208 6241 7014 7089
7095 7140 7141 7863 7988 8003 8750 8751 8829 8831
9734 9823 9826 9827 9867 9869 9870

CONVECTION, FREE
605 607 610 627 1350 2147 2148 2149 2150 2991
3002 6234 6288

CONVECTION, FREE, GASES
604 3764 4646 7998 9830 9836 9843 9845

CONVECTION, FREE, LAMINAR
604 1254 1334 2151 2998 2999 3000 3763 3765 3766
3767 3770 4606 4609 4612 5399 5404 5408 5409 5413
5418 6214 6216 6220 7098 8002

CONVECTION, FREE, LIQUIDS
1332 1337 2173 2227 3832 4610 6214 7121 7123 8020
8075 8076 9832 9837

CONVECTION, FREE, STABILITY
2147 2148 2150 3005 3070 3071 3761 3762 3768 3769
4600 4602 4607 4611 5394 5401 5402 5405 5412 6213
6215 6227 7096 8000 8001 8005 8835 8836 8837 8838
8839 9832 9833 9835 9839

CONVECTION, FREE, TRANSITION
2151 3001 5395 5396

CONVECTION, FREE, TURBULENT
606 1335 2151 3001 3003 4514 5395 5396 5410 8834

HEAT TRANSFER *CONTINUED*

CRITICAL HEAT FLUX
631 1330 1351 2169 3018 3019 3783 4629 5427 6235
6249 7124 8016 8829 8855 9857 9859

CRITICAL REGION
637 2146 3765 4631 5406 5413 9826

CRYOGENICS
584 1343 3116 5420 5429 5430 6240 8854 8856 8859

DIRECT CONTACT
628 1346 1348 1353 5441 7125

DROPLETS
637 1354 1355 5403 5438 5441 6243 7137 9854

DUCT FLOWS
601 608 609 611 612 1336 1337 1365 2172 2173
2235 2993 2994 3023 3638 3755 3760 3787 3790 3842
4605 4617 4619 4637 4673 5390 5393 5433 5436 6198
6199 6200 6202 6203 6204 6205 6210 6226 7083 7087
7089 7091 7094 7100 7104 7105 7141 7818 7988 7989
7991 7992 7993 8003 8077 8824 8831 8832 8840 8876
9819 9823 9825 9826 9827 9828 9831 9840

ELECTRICAL MACHINES
584 4636

EVAPORATION
1364 2169 3022 3781 3782 3793 5388 5438 6239 6244
7115 7120 7137 7681 9856

EXPERIMENTAL METHODS
2014

EXTENDED SURFACES
621 1359 2158 3745 3786 3786 4636 5385 7092 8025
8858 8862 9847 9862

FLUIDIZED BEDS
1367 2142 3757 3776 5388 5437 7093 7094 7996 8814

FURNACES
3806 4622 7106 8866 8880

G-VARIATION EFFECTS
631 1353 4632 5405 5428 6237

HIGH TEMPERATURE
614 2143 4604 5445 8007 8028 9868

INSULATION
594 2140 2141 2160 3746 5420 6196 7086

INTENSIFICATION OF HEAT TRANSFER
603 1327 2997 4636 5391 5398 5400 5434 6204 6235
6250 7092 7101 7142 8025 9858

LIQUID METALS
612 1347 1356 2165 2168 2170 2996 3771 3779 4610
4613 5414 5415 7014 7087 7102 7121 7123 8016 8020
8831 9855 9864

MEASUREMENT TECHNIQUES
593 634 648 1363 2141 2144 2161 2174 2345 3027
3748 3791 4643 4644 4645 4652 4653 5415 6201 6202
6225 8009 8027 8751 8869 8870 8872 9814

MELTING OR FREEZING
586 591 592 2134 2163 2987 3013 3015 3775 3776
3777 4611 4628 5423 5424 5425 5426 6232 7111 7112
7113 8850 8851 8852

NON-NEWTONIAN FLOWS
2155 3787 4617 4618 4619 4638 6227 7104 7105 8010
9860

NON-STEADY FLOW
3755 3763 3764 3767 5411 6224 7089 7098 7991 7996
9827

HEAT TRANSFER *CONTINUED*

PACKED BEDS
3785 6209

PARTICLE-FLUID FLOWS
1367 2142 3757 5400 5437 6218 7093 7094 7142 7996
8023 8024 8026 9817

PLASMA
3080 6294 6297 8083 9938

POROUS MEDIA
1366 3035 4777 5394 5432 6209 6408 7084 7086 7297
8002 8030 8033 10038

RADIATION
1465 2156 2854 3632 3851 4439 7847 8208 8702 8703
8842 9340 9663 9669

RADIATION AMONG SURFACES
617 619 620 621 623 625 634 1343 2157 2158
2159 2160 3006 3007 3009 3010 3034 4620 5390 5420
7106 7107 8029 8819 8843 8866 9821 9847 9852

RADIATION, INSTRUMENTS
3027 4643 8869 8870

RADIATION, PARTICIPATING MEDIA
622 624 1339 1340 1341 1342 2162 3008 3011 3772
3773 3774 4604 4620 4621 4622 4623 4624 4626 5419
5421 5422 6196 6228 6229 6230 6231 6421 7002 7108
7990 8011 8012 8013 8014 8821 8838 8844 8845 8846
8847 8848 9033 9815 9848 9849 9850 9851

RADIATION PROPERTIES
617 622 1343 1363 2161 2162 3008 3009 4624 4626
4627 5419 5422 6230 6231 7109 7110 8013 8014 8846
8849 8866 8870 8923 9852 9853

RAREFIED GASES
1237 2154 4463 4469 6071 6244 8716

ROTATING FLOWS OR SURFACES
601 611 1333 1336 1337 2147 3758 4601 5386 5397
5402 5412 5414 5428 5440 6194 6208 6227 6237 6242
7088 8003 8861 8864 9243 9824 9835 9841

SEPARATED FLOWS
598 605 614 615 649 3037 5407 5417 5418 6204
6223 8833 8862 8875 9842 9844 9846

SIMILARITY METHODS
1632 1633 3766 5413 6224

SOIL
7983 9020

SOLIDIFICATION
626 627 3012 3014 8015

STAGNATION POINT
599 613 1342 2153 3034 3036 3756 3795 4447 4633
4651 5387 5398 5416 5416 5443 5445 6058 6207 6230
7090 7138 8007 8828 8833 8841 8875 9677 9842 9844
9850

SUBLIMATION
4646 4647

SUPERSONIC OR HYPERSONIC
614 615 1222 1338 1341 1342 2014 2017 2046 2152
2153 2154 2858 3034 3036 3792 3795 4614 4615 4616
4625 4642 4649 4651 5416 5417 5421 5442 6222 6223
6230 6231 6246 6247 6248 7103 7138 7140 8007 8008
8009 8028 8031 8841 8845 8848 9672 9846 9851 9869
9870

SURFACE MASS TRANSFER
639 640 641 642 643 644 645 646 647 1365
1366 2995 3029 3030 3031 3034 3035 3036 3037 3767
3770 3792 3793 3794 3795 4648 4649 5442 5443 5445

HEAT TRANSFER *CONTINUED*
SURFACE MASS TRANSFER *CONTINUED*
5447 6230 6245 6246 6247 6248 7105 7126 7138 7139
7140 8028 8030 8031 8033 8861 8876 8877 9869 9870
9871

SWIRL OR CELLULAR MOTIONS
1327 1333 1334 2148 2150 2991 2997 3003 3004 3761
3769 4600 5395 5396 5400 5408 5409 5428 6211 6214
6215 6223 6226 7100 8835 8837 8839 9826 9828 9832
9833 9834

SURFACE ROUGHNESS EFFECT
1327 1331 3020 3754 3782 5400 5430 5434 7142 8017
8025 8857 9852 9856 9867

THERMAL CONVECTION
602 606 607 1333 1335 2147 2148 2149 2991 3000
3003 3005 3761 3769 4600 4607 4611 5394 5395 5396
5401 5402 5405 5410 5412 6213 6215 6227 7096 8000
8001 8005 8835 8836 8837 8838 8839 9832 9833 9835
9836 9839

TURBULENT
504 5296 6198 6199 6204 6207 6208 7090 7141 7988
9733 9823

TWO-PHASE FLOW
460 637 1349 1354 1360 2142 2144 4019 4641 5221
5403 5406 6212 6243 7114 7118 7994 7995 7999 8822
8865 8867 8873 9829 9861

VIBRATION EFFECT
596 3026 4634 4646 5400 6217 7122 7987 7998 8032
9827 9843

SEE ALSO--- ABLATION -- AERODYNAMIC HEATING -- AEROTHERMODYNAMICS -- ANALOGIES, HEAT TRANSFER -- BOILERS -- BOUNDARY LAYER -- COMBUSTION, HEAT TRANSFER ASPECTS -- CRYOGENICS -- CUTTING PROCESSES -- DIFFUSION, THERMAL -- DRYING -- FLOW, HEAT SOURCES -- FLOW, INCOMPRESSIBLE, VISCOUS, HEAT ADDITION -- FREEZING -- FURNACES -- GAGES, HEAT TRANSFER -- HEAT PIPES -- JETS, HEAT TRANSFER -- LIQUID METALS -- MAGNETO-FLUID-DYNAMICS, HEAT TRANSFER -- MASS TRANSFER, EVAPORATION -- MASS TRANSFER, TRANSPIRATION OR FILM COOLING -- MELTING -- METEOROLOGY, HEAT TRANSFER -- MODEL STUDIES, HEAT TRANSFER -- PARTICLES, HEAT TRANSFER -- PLASMA (NON-MEDICAL), HEAT TRANSFER -- REYNOLDS ANALOGY -- SPACE VEHICLE HEAT TRANSFER -- THERMODYNAMICS -- THERMOELASTICITY -- THERMOPHYSICAL PROPERTIES -- TRANSDUCERS, HEAT TRANSFER -- TURBINES AND TURBOMACHINERY -- VARIATIONAL METHODS, HEAT TRANSFER -- WINGS, HEAT TRANSFER

HEAT TREATMENT
4297 6640 7982 8545

SEE ALSO--- HARDENING -- STRESS RELIEVING

HEATERS
618 2135 3026 3784 7982

HEATING AND VENTILATION
6546 9865 9866

SEE ALSO--- REFRIGERATION, AIRCONDITIONING

HELICOPTER
561 1433 1434 1484 3304 9954 9955

CONTROLS
3730 9956 9957

ROTOR
506 507 561 1435 2245 2555 2904 3731 4569 5282
5361 6082 6110 7199 7907 7951 8794 8799 9788 9951

HELICOPTER *CONTINUED*

STABILITY
1436 2245 3294 5500 7199 8794

SEE ALSO--- PERFORMANCE, HELICOPTER -- VIBRATION, HELICOPTERS

HELIUM
3017 3742 5518 8854

HIGH LIFT DEVICES
514 2078 2080 2086 4524 7910 9737

HIGH PRESSURE

COMPONENTS
1858

TESTING
6832 7711 9458

SEE ALSO--- MATERIAL TEST TECHNIQUES, HIGH PRESSURE -- PRESSURE VESSELS -- THERMODYNAMICS -- THERMOPHYSICAL PROPERTIES

HIGH TEMPERATURE PROPERTIES OF MATERIALS
752 1508 1516 3912 3913 4115 4770 4772 6870 7279
8169 9540

FERROUS METALS
2772 3911 4284 7530 9435

NONFERROUS METALS
741 3574 4770 5579 8170 9437

NONMETALS
1322 2125 10017 10019

HIGHWAYS AND RUNWAYS
5893 7667 7668

CONSTRUCTION
1077 8532

PAVEMENT DESIGN
4270 5894 7248 8530 8600 8604

SUBGRADE DESIGN
4271 7662

SEE ALSO--- BRIDGES, HIGHWAY -- TRAFFICABILITY

HOLOGRAPHY
327 334 1063 1123 1127 1501 1816 1884 1887 1889
2723 2998 3143 3466 3530 3533 4334 5062 5126 5130
5139 5866 5940 6747 7256 7703 7708 8158 8160 8575
9472 9474

SEE ALSO--- LASERS

HUMAN ENGINEERING
2390 2509 2510 3214 4831 6449 6460 7348 10042

SEE ALSO--- BIODYNAMICS -- BIOMECHANICS -- MAN-MACHINE SYSTEMS

HYDRAULIC JUMP
2100 3584 4393 6916 6919 8654

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HYDRAULICS
4392 8343

DYNAMICS OF LIQUIDS
7425

PROPERTIES OF LIQUIDS
9043

HYDRAULICS *CONTINUED*

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HYDRAULIC STRUCTURES
1163 1164 1165 3171 4401 7742 8607 9022

BREAKWATER
6015

CONDUITS
2792

ENERGY DISSIPATORS
414 6916 6916 6919 7799

FLOW NETWORKS
1971 4705 5694 7797 7798 8655 9147

RESERVOIRS
2341 4783 10050

SPILLWAYS
2792 7744 8658 9534 9535 9607

TRANSITION ELEMENTS
414 7800

WATER TUNNELS
7077 9796

WEIRS
5192 5335 6923 6926 6927 7799

SEE ALSO--- DAMS -- DOCKS -- GRAVITY WAVES IN LIQUIDS, BREAKWATER -- PIPES AND TUBES -- VALVES AND GATES

HYDRODYNAMIC STABILITY
441 443 871 1248 2147 2148 2150 2890 3005 3761
3762 3768 3769 4395 4407 4551 4600 4602 4607 4611
4786 5206 5325 5394 5401 5402 5405 5412 6159 6213
6215 6227 7007 7096 8000 8001 8835 8836 8837 8838
8839 9106 9700 9839

SEE ALSO--- BOUNDARY LAYER, STABILITY -- FLOW, INCOMPRESSIBLE, STABILITY

HYDROELASTICITY
5337 6159 7055 7056 8215 8216 8785 9776 9790

TRANSIENT
2945

SEE ALSO--- OSCILLATIONS IN FLUIDS

HYDROELECTRIC POWER PLANT--- *SEE* POWER PLANTS, HYDROELECTRIC

HYDROFOILS
3194 3200 4806 5611 6429 8219 9618

CRAFT
7327 8217

FLUTTER
1429 4805 8215 8216

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HYDROGEN
1466 4631 4650 5443

HYDROGEN EMBRITTLEMENT
1091 1092 1093 4319

HYDROLOGY
768 1523 1539 2340 3163 3170 3171 6418 7305 9021

FLOOD ROUTING
4783 7308

GROUNDWATER
769 2331 3162 3918 4270 4271 7295 8183 8184 10029

RAINFALL
1983 7307

RUNOFF
1976 7306 7307

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HYPERGOLIC PROPELLANTS--- *SEE* PROPELLANTS, HYPERGOLIC

HYSTERESIS EFFECTS
949 2533 9255 9258

SEE ALSO--- MATERIAL TEST TECHNIQUES, HYSTERESIS

ICE
728 779 1343 1344 2345 2351 2657 3184 4647 6419
8206 8653 9604 10047

ICING
3777

IGNITION
3796 3797 5448 6253 7154 9872 9873

CATALYZED
2176

FLUID PROPELLANTS
1369 1374 2176 6252

SELF
8037

SOLID PROPELLANTS
2196 5449 5450 6251 7143 8036 8038

TEMPERATURE
3798 8037 9874 9875

SEE ALSO--- COMBUSTION, IGNITION DELAY -- ENGINES, SPARK IGNITION

IMPACT
1798 4244 4290 5692 7540 10022

BEAMS, LATERAL
4245 6714 6760

BEAMS, LONGITUDINAL
6753 9392

CABLES AND STRINGS
3559

DAMPING
245 2655 5859 5860 7627 7940

EXPERIMENTAL
239 265 266 1069 2657 4254 5076 5876 5877 6748

IMPACT *CONTINUED*

HYPERVELOCITY
265 266 267 268 1832 1833 3851 4254 5076 5875 5876 8923 9394

PENETRATION
267 268 5875

PLATES
3475 4254 5876 6758 9388 9389

SHELLS
6762 7606 7940

SHIP HULLS
3456 6760

STRUCTURES
264 1833 2672 2673 4252

TESTING EQUIPMENT
5076

TESTS OF MATERIALS
302 398 1568 2552 2657 4261 4327 4329 4330 5133 6833 9485 9487

VEHICLES
4245 5500 9391

WATER
542 3593 3721

SEE ALSO--- FORMING, EXPLOSIVE -- JETS, IMPACT -- SHOCK WAVES IN SOLIDS

IMPEDANCE METHODS
4757

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IMPINGEMENT OF DROPS
6151 6160

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IMPLOSION
6972

IMPULSE
9207

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INERTIAL GUIDANCE--- *SEE* GUIDANCE SYSTEMS, INERTIAL

INFLAMMABILITY--- *SEE* COMBUSTION, INFLAMMABILITY

INFLATABLE STRUCTURES--- *SEE* STRUCTURES, INFLATABLE

INFLUENCE COEFFICIENTS
6664

INFORMATION THEORY
4051 9199

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INITIAL-VALUE PROBLEMS
585 588

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INJECTION
1225 5251 6976 9676

FLUID
1365 1366 1990 3034 3035 3036 3037 3627 3640 4452 5248 5444 5446 6975 7851 7854 9675 9679

INJECTOR
655 8065 9680

INLETS
467 1234 2015 2829 3641 5184 5252 5254 5592 6047 6062 6087 6122 6473 7856 8708 8709 8710 9791

INSTRUMENTS
1536 2476 5362 7709 8209 8210 8211 9022 10044

ACOUSTICAL
4759 5367

CALIBRATION
347 1312 6828

ELECTRICAL
380 890 2494 7073 9020 9695

ELECTRONIC
2475 3477 4574 4758 5131 5132 5367 9482 9483 9484

MECHANICAL
777

OPTICAL
2346 5188 7072 8869 8870 9024

SEE ALSO--- GAGES -- TEMPERATURE MEASUREMENT INSTRUMENTS -- THERMOCOUPLES -- TRANSDUCERS

INSULATING MATERIALS
245 2160 3746 4731 5420 5522 7086 8144 8472 8982 9974

INTEGRAL EQUATIONS
588 619 3351 3652 3772 4130 5423 6195 6229 6621 6629 7085 7106 7108 7514 8821 8843 8845 9848

ANALYTIC AND OPERATIONAL METHODS
30 32 33 34 854 859 3065 3263 4870 4871 4872 5688 6485 7400 7402 7944 9111 9112 9113

NUMERICAL AND OTHER APPROXIMATION METHODS
448 855 870 876 877 1531 1607 1614 1615 1623 3271 4027 4046 4048 4888 5679 6489 6490 6512 7401 7423 8281 8292 8299 9105 9657 9663

SEE ALSO--- BOUNDARY LAYER, INTEGRAL METHODS

INTEGRAL TRANSFORMS--- *SEE* OPERATIONAL METHODS

INTEGRATION--- *SEE* NUMERICAL ANALYSIS, INTEGRATION

INTEGRO-DIFFERENTIAL EQUATIONS
871 2412 2428 4028 5667 8282

SEE ALSO--- BOUNDARY LAYER, INTEGRAL METHODS

INTERFACE PHENOMENA
732 6920 6921 7341 9031

FLUID BOUNDARIES
2798 4792 5190 5590 7895 9025

GAS-SOLID
736 2037 10052

JET BOUNDARIES
468

LIQUID-LIQUID
535

LIQUID-SOLID
2294

LIQUID-VAPOR
419 1988 3940 4551 5330 7933 7934 8775 9920

SOLID-SOLID
1565 2357 2359 2360 2361 3204 3938 3962 4778 5614

INTERFACE PHENOMENA *CONTINUED*
SOLID-SOLID *CONTINUED*
7334 8189 8223

INTERFERENCE AND COUPLING--- *SEE* AERODYNAMIC INTERFERENCE

INTERFERENCE FITS
1941 2767 6886

INTERNAL COMBUSTION ENGINES--- *SEE* ENGINES

INTERNAL FRICTION--- *SEE* DAMPING CAPACITY OF MATERIALS

INTERPLANETARY PROBES
703 720 1453 1462 3125 3877 5538 5539 6324 6345
7210 8014 8952

ASTEROID PROBLEMS
1464

PLANETARY ENTRY
3630 7225

INTERPOLATION--- *SEE* NUMERICAL ANALYSIS, INTERPOLATION

INVARIANT IMBEDDING--- *SEE* OPTIMAL AUTOMATIC CONTROL, INVARIANT IMBEDDING AND QUASILINEARIZATION

ION

ACCELERATOR
6301

IONIC PROPULSION--- *SEE* SPACE VEHICLE PROPULSION, IONIC

IONIZATION
2143 2839 4455 4457 4458 5598 6970 9695

IONIZER
1415

IRON
959 2189 3363 3962 4124 5150 5615 5775

IRREVERSIBLE THERMODYNAMICS--- *SEE* THERMODYNAMICS, IRREVERSIBLE

IRRIGATION

HYDRAULICS
2795 4395

STRUCTURES
3163

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J

JET ENGINES
467 1388 2115 2829 3064 3137 3139 3641 3642 6273
7164 8710 8972 8973 9791

RAMJET
2917 4669

SCRAMJET
3044

TURBOFAN
669 1479 2919 3140 3725 4566 6272 8062

TURBOJET
665 1389 2195 2209 2477 2919 3059 4666 4667 5252

JET ENGINES *CONTINUED*
TURBOJET *CONTINUED*
5254 5464 5728 6062 6978 7158 8061 8708

TURBOPROP
9895

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JET FLAPS
518 1276 2086 2913 3702 5315 5361 7907 8761 8764
9737

JET PROPULSION
3064 3825 6271 6978 6980 7330

JET PUMPS
7949

JETS
466 478 1203 1206 2059 3617 3674 4462 5205 6053
7883 7893 9644

COMPRESSIBLE FLOW
2026 3646 4468 4650 4682 6105 7853 8746

COMPRESSIBLE FLOW, DIFFUSERS
9732

COMPRESSIBLE FLOW, INJECTORS
515 1313

COMPRESSIBLE FLOW, NOZZLES
470 2027 2028 2834 6102 6987

HEAT TRANSFER
4604 5391 5398 6221 6250 9863

IMPACT
1855 2370 3885

IMPINGEMENT
419 603 2819 4604 5391 5398 5919 6037 6250 6261
6981 7882 8746 9677 9863

INCOMPRESSIBLE FLOW
1187 6937 8680 8688 8689 9620 9645 9674

INCOMPRESSIBLE FLOW, EJECTORS
559

INCOMPRESSIBLE FLOW, INJECTORS
9653

INCOMPRESSIBLE FLOW, LAMINAR
2000 2002 2815 2816 3620 5226 6032 6034 7827

INCOMPRESSIBLE FLOW, OSCILLATIONS
9653

INCOMPRESSIBLE FLOW, TURBULENT
461 2002 2818 4429 5222 5280 6032 6035 6036 6953
7009 7010 7011 7887 9698

PENETRATION
462 463 2838 2841 3627 4452 5251 6476 7850 7854
9675 9680

PLASMA
1408 9939

SOUND GENERATION
3135 3137 3884 3885 4747 6354 6357 6745 6981 7245
8137 8138 8966 8969

STABILITY
419 758 2941 3639 4550 4680 6296 6475 9641 9768

WALL
613 647 2816 3618 3661 4511 6100 9644 9679

JETS *CONTINUED*

SEE ALSO--- ARCS, JETS -- FLOW MEASUREMENT, ORIFICES -- MIXING, JETS -- NOZZLES -- TURBULENCE, FREE

JOINTS AND JOINING PROCESSES
400 1949 1958 6908 7785 8584 8620 9469

BOLTED
3564 5177 5178 5179 6909 7695 7729

BONDED
309 401 402 1957 1959 1960 5181 5182

BRAZED AND SOLDERED
349 9582 9583

EXPLOSIVELY FORMED
5912

GLUED
5921 8221

WELDED
398 1871 1952 8573

SEE ALSO--- ADHESIVES -- FATIGUE, JOINTS -- LIMIT DESIGN AND ANALYSIS, JOINTS

K

KILNS--- *SEE* FURNACES

KINEMATICS
1182 3570 3573 6596 6597 6599 6600 6602 7479 7481 9570 9571 9572

ACCELERATION
77 2779

HUMAN BODY
3215 4831

LINKAGES
391 392 393 394 395 1180 1181 1940 1947 1948 1949 2778 2779 3563 3566 3567 3568 3572 4378 4385 4387 5174 5175 5981 5991 5992 6894 6895 6896 6898 6899 6901 6902 6903 6904 6905 7621 7758 7759 7760 7761 7762 7763 7771 7772 7773 7774 8380 8622 8635 9553 9564 9565 9566 9567 9568 9569 9571 9573 9574 9578 9579

MOBILITY
1950 5634 6900 9073 9573

RIGID BODY
4086 4087 4939 6598 6601 7758 7761 7764 7776 7777 8376 8377 8382 8383 8385

SYNTHESIS
392 1945 1947 1948 1950 2777 3566 4379 5738 6895 6897 6898 6899 6901 6902 6904 9564 9565 9566 9567 9569

VELOCITY
394 395 1943 3563 5984

SEE ALSO--- BIOMECHANICS, LOCOMOTION -- GEARS, KINEMATICS

KINETIC THEORY
473 1237 2034 2035 3645 3647 3649 3775 4459 4460 4461 4464 4465 4468 5263 5265 5266 5267 6051 6056 6067 6068 6070 7115 9682 9683

COLLISION MODELS
459 579 8715 8717

KINETIC THEORY *CONTINUED*

GASES
471 1226 1238 1234 2117 2121 2122 2861 2970 2972 5377 5378 6177 8699 8810 9691

IONIZED GASES
577 578 1404 5484 7185

PLASMAS
642 1400 1403 1413 3849 3850 5477 7183 7186 9930 9936

SEE ALSO--- RAREFIED GASES

L

LAMINAR FLAME--- *SEE* FLAME, LAMINAR

LAMINAR FLOW

COMPRESSIBLE
446 6294

INCOMPRESSIBLE
1991 1993 1995 1996 1997 2000 2001 2005 2782 2810 3604 3609 4426 5216 6277 6946 7829 8077 8671 8680 9650 9909 9925 9929

STABILITY
2006 3625 5229 6958

SEE ALSO--- CAPILLARY FLOW -- FLOW, INCOMPRESSIBLE, STABILITY -- PIPE FLOW, LAMINAR

LAMINATES
135 967 969 1241 2554 2635 3244 3377 3378 4132 4136 4139 4992 5782 5783 5875 6646 6648 6649 6889 7539 8410 8421 8441 8445 9268 9296

SEE ALSO--- COMPOSITE MATERIALS

LANDING AND TAKEOFF
521 522 523 566 2086 4079 4080 9955

AERODYNAMIC ASPECTS
518 2078 2083 9751 9757

STRUCTURAL ASPECTS
9958

LANDING GEARS
8103

LANDSLIDES--- *SEE* SOIL MECHANICS

LAPPING--- *SEE* GRINDING

LASERS
337 568 1314 2656 2724 2900 2958 2964 3945 4453 5127 5257 5368 5547 6105 7139 8869 8927 9736

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LATENT HEAT

FUSION
7111

VAPORIZATION
8815

LEAD
1565 1732 4115 5095 5773 5901

LEARNING SYSTEMS
75 2496 2497
MAY FEATURE ARTICLE

AUTOMATA
76 936 4938 5731 6594 7478

ON LINE METHODS
7477

SEE ALSO--- PATTERN RECOGNITION

LIFT AND DRAG--- *SEE* DRAG AND LIFT

LIMIT CYCLES AND OSCILLATIONS
52 54 55 244 1027 1029 1031 1061 1778 3286
4059 8336 9334

LIMIT DESIGN AND ANALYSIS
350 1145 1146 2753 3539 6638 8583 9501 9502

BEAMS
351 4340 4346

FRAMES AND BENTS
354 3542 4339 7528

JOINTS
309 3540

PLATES
5955 5956 6644

PRESSURE VESSELS
JULY FEATURE ARTICLE

SHELLS
112 3538 9500

SEE ALSO--- REINFORCED CONCRETE, DESIGN, LIMIT -- STRUCTURES, DESIGN, LIMIT

LINEAR AND NONLINEAR PROGRAMMING
1839 3061 4055 4070 4922 7417 7456 7464 8591 8592
9186

SEE ALSO--- DYNAMIC PROGRAMMING

LINKAGES--- *SEE* KINEMATICS, LINKAGES

LIQUID FILM
443 1999 2164 2167 2941 3019 3793 4633 4634 4648
5431 6016 7933 7934

FLOW
1990 2938 3782 6029 6039 6237 7049 7120 7126 7935
7949 8022 8852 8860 9838

SEE ALSO--- WAVES, LIQUID FILMS

LIQUID METALS
597 612 794 795 1347 1356 2129 2165 2168 2170
2373 2996 3771 3779 4610 4613 5414 5415 7087 7102
7121 7123 7166 7935 8016 8020 8084 8239 8643 8831
8888 9056 9580 9855 9864

LIQUID SLOSHING
538 540 1301 4554 5328 5338 5345 6143 6154 6156
6336 7039 7061 7062 7937 7938 7941 8785 8786 8787

LOADS

EARTHQUAKE
4376

EXPLOSIVE
1830 4377

WIND
2642

LOADS *CONTINUED*

SEE ALSO--- AIRPLANE, DYNAMIC LOADS -- SEISMOLOGY -- TRANSDUCERS, LOAD

LOW TEMPERATURE PROPERTIES OF MATERIALS
1517 4115 7533 8409 8541

SEE ALSO--- CRYOGENICS

LUBRICANTS
1561 1572 10087

DRY FILM
803 3212

GAS
9055

GREASE
1571

LIQUID
798 2365 2366 2367 2369 3207 4811 4815 4820 5627
5629 6433 7088 7338 7682 8234 9056 9058 9060 9071

SOLID
793 6432

LUBRICATION
601 1561 1572 7341 7824 10087

BOUNDARY
798 2365 2369 3207 4815 5616 6433 7338 7344

DRY FILM
803 3212

ELASTO-HYDRODYNAMIC
802 809 2368 3209 3961 3964 3969 6441 6445 7342
7343 8233 8234 8238 9058 10082

HYDRODYNAMIC
801 805 806 807 2045 2367 2371 2372 2375 3210
3965 3966 3967 4814 4816 5620 5622 5623 5624 5626
5629 5630 6439 6440 6443 6446 7339 8230 8231 8232
8240 8241 9055 9056 9060 9439 10077 10078 10084

HYDROSTATIC
804 2373 3208 3211 3963 5621 5625 6442 6444 6447
7340 7345 8235 8236 8237 9059 10079

SOLID
793 6432 7896

SEE ALSO--- BEARINGS -- FRICTION -- GEARS -- TURBULENCE, FRICTION REDUCING ADDITIVES -- WEAR

LUDWIG TUBE
5372 7954

SEE ALSO--- SHOCK TUBES -- WIND TUNNEL

LUNAR MISSIONS
702 5509 5534 6341 7211 7223 7224 8942

LANDING
2273 5536 5537 9958 9963

LAUNCH
2274 5535 8131 9971

RETURN
1472

SURFACE
4256 7231 8130 8951

M

MACHINABILITY
5911

MACHINE DESIGN
320 394 1050 1173 1177 1940 1941 1946 2766 2767
2768 2769 2770 2771 2773 2774 2775 2776 2778 2779
3563 3565 3569 3571 3573 4378 4379 4380 4385 4386
4387 5172 5174 5175 5176 5981 5982 5983 5984 5985
5987 5988 5991 5992 5993 5994 5995 5996 6886 6887
6890 6894 6895 6897 6898 6899 6904 6905 6906 7368
7758 7759 7760 7761 7762 7763 7764 7765 7766 7767
7768 7771 7772 7773 7774 7775 7777 8384 8622 8623
8624 8625 8629 8630 8634 8635 8637 9342 9358 9550
9552 9575 9576 9579

SEE ALSO--- BELTS -- CAMS -- CHAINS -- CLUTCHES -- COUPLINGS -- KINEMATICS, LINKAGES -- SCREWS -- SEALS -- SPLINES -- SPRINGS

MACHINE TOOLS--- *SEE* TOOLS

MAGNESIUM AND MAGNESIUM ALLOYS
7533 9245

MAGNETO-FLUID-DYNAMICS
1951 5581 8914 8919 8920

AERODYNAMIC APPLICATIONS
2241 4690 7188

BOUNDARY LAYER, COMPRESSIBLE
5476 8916 9926

BOUNDARY LAYER, INCOMPRESSIBLE
5474 5475 7101 7179 7180 8078 9923

CHANNEL FLOWS, COMPRESSIBLE
693 1392 1394 2218 2219 2230 2234 3829 3847 6280
6287 7171 7173 8897 8898 8899 8900 9905 9910 9911
9941

CHANNEL FLOWS, INCOMPRESSIBLE
672 689 1393 1918 2217 2220 2221 2235 3067 3068
3069 3076 3830 3842 4673 4674 4852 5469 5478 6276
6278 6279 7172 7175 7176 7194 8077 8092 8912 9906
9908 9909 9912 9929

DIAGNOSTICS
1911 1919 1920 2236 2244 3066 3845 5489 5490 5492
6303 6304 6306 6307 7195 8082 8093 8095 8931 9933
9945 9947

DIFFUSION IN PLASMAS
5481 8921 9931 9934 9935 9936

ENERGY CONVERSION
694 698 699 1395 1916 1921 3085 3831 3848 3856
5487 5488 6281 6302 7174 7192 7193 8090 8091 8895
8926 9942 9944

EXPERIMENTAL METHODS
1922 2243 4691 4692 5491 6297 6305 7187 7190 8094
8985 9939

HEAT TRANSFER
2227 2238 3080 3083 4693 5482 6288 6293 6294 8075
8076 8083 8923

INTERACTION OF PLASMAS WITH EXTERNAL MAG FIELDS
690 696 1398 1399 1912 1917 2242 3065 3843 7191
8907 9940 9943

OBSTACLES, FLOW PAST, COMPRESSIBLE
1909 1910 3854 4689 5485 6295 8087 8088 8910 9924

OBSTACLES, FLOW PAST, INCOMPRESSIBLE
2226 2228 3082 3841 3852 3853 5470 6289 8085 8909

MAGNETO-FLUID-DYNAMICS *CONTINUED*
OBSTACLES, FLOW PAST, INCOMPRESSIBLE *CONTINUED*
8911 9927

ROTATING FLOWS
3084 3840 4679 4681 4685 5472 5486 6290 7181 7189
8896 8913 8915 9907 9922

SHOCKS IN PLASMAS
678 682 1396 2240 3833 3839 4688 5669 6282 6284
6299 7177 7178 8086

SHOCKS IN PLASMAS, COLLISION FREE
679 695 697 5479 6298

SHOCKS IN PLASMAS, NORMAL
2224 3834 7196 8902

SHOCK TUBES, ELECTROMAGNETIC
683 685 1907 1914 4677 4678 8925 691 1905 1906
2231 2233 2239 3070 3074 3078 4684 6286 7184 8071
8072 8073 8080 8917 8928 9913 9915 9917 9928

STABILITY, KINETIC THEORY
1902 2232 3079 3844 4683 8079 8081

TURBULENCE,CONTINUUM APPROACH
687 688 2225 2229 3075 6300 8922

TURBULENCE, KINETIC APPROACH
1397 5483 6291 6292 8908

WAVES, ELECTROMAGNETIC
674 675 676 677 684 3081 3836 4676 5471 5473
8074 8904 8924 9937 9946

WAVES, INTERACTION WITH BOUNDARIES
3072

WAVES, MAGNETO-FLUID-DYNAMIC
673 680 681 2222 3073 3077 3835 4672 4675 6285
8901 8905 9914 9916 9918 9920 9930

SEE ALSO--- ARCS -- ENERGY CONVERSION -- FLOW, COMPRESSIBLE, MAGNETO-FLUID-DYNAMIC -- FLOW MEASUREMENT, MAGNETO-FLUID-DYNAMIC -- PLASMA (NON-MEDICAL) -- PUMPS, MAGNETO-FLUID-DYNAMIC -- SPACE VEHICLE PROPULSION, PLASMA

MAGNETO-HYDRO-DYNAMICS--- *SEE* MAGNETO-FLUID-DYNAMICS

MAGNETOSTRICTION
8985 9216

SEE ALSO--- VIBRATION, MAGNETOSTRICTION

MAN-MACHINE SYSTEMS
827 905 3214 6569

SEE ALSO--- BIOCONTROL -- HUMAN ENGINEERING

MASCON
5537

MARINE ENGINEERING
379 380 4368 4808 5169 5609 6427 9049

EFFECT OF WAVES ON BUOYS
416 2946 7063

FORCES ON BUOYS
1929 2106 4241 4556 7063

MOORING
206 584 1555 2106 6782

OSCILLATIONS OF BUOYS
2946 4241 4555 7939

SHIP DESIGN
1552 1557 1560 3955 4798 6426 6877 6879 7324 7325

MARINE ENGINEERING *CONTINUED*
SHIP DESIGN *CONTINUED*
7329 8218

SHIP GUIDANCE
1557 1675

SHIP HYDRODYNAMICS
1550 1554 1556 3189 3195 3201 4802 5605 5606 6017
6430 7322 7323 7326 7331 7332 8212 8213 8214 9042
9044 10067 10069

SHIP HULLS
238 5167 5168 6425 6876 6878 7618 9544 9545

SHIP MODEL EXPERIMENTS
1551 2003 2004 2106 3192 3193 4799 5607 8212 9047

SHIP MOTION
1553 1554 1558 3202 3957 4803 5342 5608 6431

SHIP MOTION, SEAS
541 1560 3194 4801 4804 5342 7327 8784 9045 10070

SHIP MOTIONS, INLAND WATERWAYS
8214 9044 9048 10069

SHIP PROPULSION
1805 2495 3196 3197 4807 5610 6428 7330 10071

SHIP RESISTANCE
479 530 1552 1553 3190 3191 3192 3193 3201 3955
4797 4799 4800 5608 6424 6426 6428 7325 8212 10068

SHIP SLAMMING
1559 4804 9047

SHIP STABILITY
1558 4803 6431 7328 9048 10070

SHIP TESTS
3202 5612 9043

SHIP WAVES
1550 1551 2937 3955 3956 3959 4799 4802 5605 5606
6430 7322 7323 8772 9042 10067

TOWED BODY DYNAMICS
9046

TOWING CABLE DYNAMICS
2107 9046

WAVE GENERATION BY OSCILLATION OF BODYS
2951

SEE ALSO--- HYDROELASTICITY -- HYDROFOILS -- IMPACT, SHIP HULLS -- PERFORMANCE, SHIPS -- PROPELLERS, MARINE -- RUDDERS -- SHAFTS -- STRUCTURES, SHIP -- SUBMERGED BODIES -- VEHICLES, AMPHIBIOUS -- VEHICLES, SEA -- VIBRATION, SHIP HULLS -- WAVES, EFFECT ON FLOATING BODIES

MARINE PROPELLERS--- *SEE* PROPELLERS, MARINE

MASS TRANSFER
595 636 640 641 642 643 644 645 646 648
5201 5297 5322 6016 6026 6427 9148 9611 9635

DIFFUSION
534 635 637 638 639 1261 1262 2135 2987 3029
3975 4601 4647 5439 5441 5581 6206 6209 6928 7137
7891 7986 8174 8749 8860 8874 9812 9854 9868

EVAPORATION
2164 3781 3793 5388 5438

FORCED CONVECTION
1241 1256 2996 3029 3030 3031 3679 3793 4648 4650
4651 5298 5388 5397 5398 5440 5441 5445 6230 6245
6246 6247 8028 8032 8801 8860 8861 8865 8875 10031

MASS TRANSFER *CONTINUED*

FREE CONVECTION
602 3767 3770 4568 4646 6213 7074 8836

INJECTION
515 1365 1366 3034 3037 3667 4651 5445 6045 6058
7105 7140 7837 8876 8877 9634

TRANSPIRATION OR FILM COOLING
1358 2046 2995 3035 3036 3792 4649 5447 6248 6249
7002 7084 8030 8031 8033 9870 9871

TURBULENT
602 1358 3685 5296 6096 7015 7016

SEE ALSO--- ABLATION -- DIFFUSION -- DRYING -- HEAT TRANSFER, EVAPORATION -- MIXING

MATERIAL TEST TECHNIQUES
338 1129 4115 4325 4328 5949 6828 8578

BENDING
1130 3574

BIAXIAL
1131 1132 2676 4974 4985 8403

COMPRESSION
1894 2675 3203 5849

CYCLIC
318 340 1133 1134 1900 7521

DYNAMIC
341 342 1064 1069 1070 1135 1136 1325 1821 1904
2728 3341 4327 4968 5133 8404

FRACTOGRAPHIC
1878 1879 1882

FRACTURE TOUGHNESS
4329 4330 8160 8577

HARDNESS
111 1104 1139 1863 2729 2733 4331 4332 5135

HIGH PRESSURE
1069 1138 1738 4974 4985

HIGH STRAIN RATE
1064 1821 2534 5134 8404 8543

HIGH VACUUM
340 1563 2730 3212 3213 8228

HYSTERESIS
1905

LOW TEMPERATURE
1517

MACHINES
796 800 1137 1897 1903 2534 5947 5948 7521

NOTCH
1893 4326

SHEAR
1730

TENSION
1140 1899 3532 4324 6835 9486

TORSION
381 1821 1896 2726 2727 7346 8576

TRIAXIAL
1738

SEE ALSO--- CORROSION -- CREEP -- DAMPING CAPACITY OF MATERIALS -- ELASTIC CONSTANTS OF

MATERIAL TEST TECHNIQUES *CONTINUED*
SEE ALSO--- *CONTINUED*

MATERIALS -- FATIGUE, EXPERIMENTAL METHODS -- FRACTURE -- HARDNESS -- IMPACT, TESTS OF MATERIALS -- METALLOGRAPHY -- NONDESTRUCTIVE TEST TECHNIQUES AND INSPECTION -- X-RAY TECHNIQUES

MATERIALS, PROPERTIES--- *SEE* UNDER MODIFIERS

MATHEMATICAL METHODS--- *SEE* UNDER MODIFIERS

MATHEMATICAL PROGRAMMING
2777 4924 4926 8350 8351 9197

SEE ALSO--- DYNAMIC PROGRAMMING -- LINEAR AND NONLINEAR PROGRAMMING -- OPTIMAL AUTOMATIC CONTROL

MATRIX METHODS
18 137 160 923 4782 5789 7891

DETERMINANTS
18 24

EIGENVALUES
20 846 866 878 1602 2430 4044 4050 4856 4857 5677 5682 5683 5686 6537 9096 9134

EQUATIONS AND TRANSFORMATIONS OF MATRICES
867 1620 2410 3279 4009 4921 5666 6479 6480 6505 6518 7416 9097

INVERSION
18 22 873 1621 3269 4041 4043 4874 7391 7404 9134

LINEAR EQUATIONS
18 40 875 2416 2423 4009 4041 4043 4886 6520 9095 9136

SPECIAL MATRICES, NORMS, INEQUALITIES
18 20 858 4054

SEE ALSO--- LINEAR AND NONLINEAR PROGRAMMING -- NUMERICAL ANALYSIS -- STRUCTURES, MATRIX METHODS -- VECTOR AND TENSOR METHODS -- VIBRATION, MATRIX METHODS

MEASUREMENT METHODS--- *SEE* UNDER MODIFIER

MECHANISMS--- *SEE* MACHINE DESIGN

MELTING
2163 3013 3775 5423 5424 5426 7111 7112 7113 7249 8851 9808

MEMBRANES
2566 2567 2601 3972 4147 5065 6663 8248 8428 9276 9277 9389

PERMEABLE
1527 7284 8749

SEE ALSO--- VIBRATION, MEMBRANE

METAL FORMING--- *SEE* FORMING, METAL

METALLOGRAPHY
3361

METALLURGY
1891 4319 5920 8541 9455

POWDER
4978

METEORITIC DUST--- *SEE* DUST, METEORITIC

METEOROLOGY
5597 5643 6219

METEOROLOGY *CONTINUED*

APPLIED
4795 5602 6422 9029 10057

ATMOSPHERE
2088 6103

CLIMATOLOGY
2355 3950 4788 4796 10064 10065

CLOUD PHYSICS
2351 2352 2355 3184 4795 5602 6419 6422 9035

DYNAMICS, CIRCULATION AND VORTICITY
2007 3948 4789 5594 7314 9028 9041 10058 10059

DYNAMICS, EQUATIONS OF MOTION
3176 3179 3182 3946 3951 7313 9034

DYNAMICS, KINEMATICS
2349 2350

DYNAMICS, NUMERICAL METHODS
2356 3175 3177 3182 3934 4884 5676 7318 8205 9027

DYNAMICS, PERTURBATION THEORY
3944 8199

GENERAL CIRCULATION
788 3948 3950 3952 3953 7318 7319 8207 10063

HEAT TRANSFER
3008 3183 3186 3952 6421 8000 8208 9033 9037 10064

MEASUREMENTS
783 784 789 1546 1547 1549 2347 2348 2353 3178 3180 3184 3186 3188 3895 3947 3954 4790 4791 4793 5594 5599 5603 5604 7316 7320 7321 9035

MICROMETEOROLOGY
785 1544 1548 2347 2348 3181 3183 4792 4793 5596 7316 9025 9031 9036 10051 10052 10061 10066

PHYSICAL
779 782 1545 1549 2353 3187 3188 7320 8206 9038

PLANETARY ATMOSPHERES
7319

ROCKETS AND SATELLITES
6423 8208

SYNOPTIC, ANALYSIS AND FORECASTING
783 2088 2350 3176 3179 3180 3951 6420 7314 7317 9028 9029 9040 10051 10060

THERMODYNAMICS
8205 8207

TIDAL WAVES
3174 3939 5591 6196

TURBULENCE
789 1548 3178 3181 4790 4791 4794 5595 5596 5604 6103 6371 6420 7003 7006 7317 8196 8204 8747 9026

UPPER ATMOSPHERE
784 1543 1546 2349 2354 3175 3185 3187 3947 3949 3954 5599 5600 7313 7315 7321 8199 8200 8201 8202 8203 9030 9032 9041 10058 10062

SEE ALSO--- ARTIFICIAL SATELLITES, WEATHER SATELLITES -- ASTROPHYSICS -- DIFFUSION, ATMOSPHERIC -- HYDROLOGY -- ICING -- OCEANOGRAPHY -- TIDES

METHOD OF CHARACTERISTICS--- *SEE* NUMERICAL ANALYSIS, CHARACTERISTIC METHODS

MICROMERITICS
31 744 2324 2325 2326 2327 2328

SEE ALSO--- AEROSOLS -- BED -- BUBBLE DYNAMICS -- DROPS -- DUST, TRANSPORT -- FLOW, INCOMPRESSIBLE, PARTICULATE -- GRANULAR MEDIA -- HEAT TRANSFER, PARTICLE-FLUID FLOWS -- PARTICLES -- POROUS MEDIA -- SEDIMENTATION -- SEDIMENT TRANSPORT -- SPRAYS

MICROPOLAR MEDIA
6 7 9 11 15 16 844 2391 2395 2407 2408 3230 3231 3241 3243 3244 3997 4005 4838 4839 4848 4851 5646 5653 5654 5655 6465 6467 6469 6472 6475 6476 7369 9076 9079 9081 9083 9091 9092 9093

CONSTITUTIVE EQUATIONS
843 1583 1586 1588 1599 2399 2401 2409 3239 3248 4846

SEE ALSO--- WAVES, MICROPOLAR MEDIA

MILLING
2648 7680 8743

MINES
299 301 369 6390 7374

MISSILES
1284 2914 7026 7034 7035 8767 8768 9205

SEE ALSO--- PERFORMANCE, MISSILE -- ROCKETS -- SPACE VEHICLE DESIGN -- SPACE VEHICLE NAVIGATION AND GUIDANCE -- SPACE VEHICLE POWER -- SPACE VEHICLE PROPULSION -- SPACE VEHICLE STABILIZATION -- VIBRATION, MISSILES AND ROCKETS

MIXING
415 655 4567 4638 5193 9772 9841

JETS
461 466 499 628 654 1203 1204 1206 1387 2000 2059 2899 3618 3619 3646 4399 4429 4452 4650 5205 6060 6221 6296 6976 6981 6982 7850 7851 7890 8695 9676 9679 9680 9699

LAMINAR
1999

SOLIDS
2325

TURBULENT
432 1224 2012 2063 2798 4510 5224 6096 9681

SEE ALSO--- MASS TRANSFER

MIXTURES
13 756 757 1969 4590 4849 5651 6474 6979 7373 9091

GAS
458 2036 2860 2975 3647 3649 3654 3743 3744 5257 5268 5379 5439 5459 6051 6066 6190 6252 7837 7974 8953

LIQUID
2787 3579 5581 7371 9088

SOLIDS
12 14 2325 4850 5650 6764

MODEL STUDIES
4325 5542

FLUID MECHANICS
1548 1977 2003 2004 2107 2791 2797 2800 3771 4397 4543 4785 4784 4790 5189 5342 5389 5590 6015 8197 9465 10053 10055

HEAT TRANSFER
2716 2989 3024 3750 3771 5389 9015 9031 9817

MODEL STUDIES *CONTINUED*

SOLID MECHANICS
328 379 966 1857 2715 3938 4778 7701 8616

SEE ALSO--- MARINE ENGINEERING, SHIP MODEL EXPERIMENTS -- SCALE EFFECT -- STRUCTURES, MODELS

MOIRE METHODS---*SEE* OPTICAL TECHNIQUES, MOIRE METHODS

MOLDING--- *SEE* CASTING

MOLECULAR BEAMS
2037 9881

MULTIPHASE FLOW
458 460 2114 2850 8695 8707

SEE ALSO--- PIPE FLOW, MULTIPHASE

N

NAVAL ARCHITECTURE--- *SEE* MARINE ENGINEERING

NAVIGATION
8939

SEE ALSO--- MARINE ENGINEERING, SHIP GUIDANCE-- SPACE VEHICLE NAVIGATION AND GUIDANCE

NICKEL
4978 7530 9455

NOISE
6352 6355 7260 7261

ABATEMENT
727 735 1484 2825 3137 3138 3145 3888 4739 4744 4746 4748 5550 5551 6348 6357 7250 7251 8141 8144 8471 8473 9488 9491 9492

AIRCRAFT
727 1484 3093 3132 3133 3139 3887 4746 4748 5555 5556 6356 7241 7243 7244 7251 8137 8138 8155 8469 8472 8473 8474 9491

ARCHITECTURAL ASPECTS
1483 1488 1490 3134 3144 4744 4745 7244 7248 7249 7252 7259 8145 8148 8149 8154 9496

BOUNDARY LAYER
496 1243 3896 4497 7012 7888

CAVITATION
3147 3883 4741 8139

ENGINES
657 1309 2288 3132 3138 3139 3140 4746 6358 6478 7246 7247 7250 8141 8142 8470

GENERATION
727 1479 3133 3135 3139 3639 3884 4747 5557 6349 6354 7245 7247 7248 8461 8463 8465 8469 9486 9488

MEASUREMENT
2288 3887 4748 7245 8140 8143

POLLUTION
734 1483 5549 8140

RANDOM
7405

SPECTRA
1490 6353 8140 8143 8145 8470

SEE ALSO--- BIOMECHANICS -- BOUNDARY LAYER, NOISE -- STATISTICAL CONTROL THEORY, NOISE

NOMOGRAMS
874 7805 7807

NONDESTRUCTIVE TEST TECHNIQUES AND INSPECTION
2731 2732 4333 4334 4808 5129 5140 5965 7713 7714
9482 9490 9491

ACOUSTIC EMISSION
318 366 7712 8539 9493

CRACK INSPECTION
1126

EDDY CURRENT
2025

RADIOGRAPHIC
5138

ULTRASONIC
343 344 345 1487 1499 5946 7700 8157 8158 8160
8539 8992

SEE ALSO--- ULTRASONICS -- X-RAY TECHNIQUES

NONLINEAR--- *SEE* UNDER MODIFIER

NON-NEWTONIAN FLOW
1242 1966 1967 1970 2786 3581 5184 5185 7786 7789
7790 8645

SEE ALSO--- FLOW, INCOMPRESSIBLE, NON-NEWTONIAN -- PIPE FLOW, NON-NEWTONIAN

NOTCH SENSITIVITY
115 1733 6818

NOTCH TEST--- *SEE* MATERIAL TEST TECHNIQUES, NOTCH

NOZZLES
4500

COMPRESSIBLE FLOW
464 465 469 1232 1331 2023 2024 2027 2846 2847
2866 2963 3638 3643 3645 4450 4453 4454 4461 4464
4686 4687 4690 4747 5250 5255 5256 5258 6977 6978
6983 6995 7193 7855 7862 7867 7955 8707 9676 9682

INCOMPRESSIBLE FLOW
1977 8686 8735

STRUCTURAL ANALYSIS
7158

STRUCTURAL TESTS
1116 3523

TWO-PHASE FLOW
2025 2811 6979 9637 9678

SEE ALSO--- FLOW MEASUREMENT, NOZZLES -- ROCKETS, NOZZLES -- THRUST, NOZZLE -- TURBINES AND TURBOMACHINERY, NOZZLES

NUCLEAR DETONATIONS
1921 2764

BLAST EFFECTS
8700

THERMAL RADIATION EFFECTS
2140 3774

NUCLEAR RADIATION
671 3826

NUCLEAR REACTORS--- *SEE* REACTORS, NUCLEAR

NUMERICAL ANALYSIS
513 1531 1539 2032 2033 2356 2835 2853 2903 2906
2908 3182 3300 4435 4439 4441 4442 4456 4518 4534
5262 5701 6054 6111 6441 7017 7032 7483 7836 7846

NUMERICAL ANALYSIS *CONTINUED*
7870 9658 9660

APPROXIMATION THEORY
2507 6502 6510 6515 9689

CHARACTERISTIC METHODS
261 269 449 1065 1834 2019 2031 2406 5306 6487
9395

CURVE FITTING AND SMOOTHING OF DATA
44 856 2696 5693 6425 6504 6522 7324 7424

DIFFERENTIATION
4047 7414 9143

FINITE DIFFERENCE METHODS
425 439 536 604 620 790 1334 1335 1992 1993
1996 1997 2005 2023 2029 2098 2100 2809 2842 2854
2998 2999 3032 3586 3587 3608 3643 3753 3760 4047
4391 4418 4453 4628 5208 5214 5234 5238 5241 5256
5330 5384 5389 5407 5409 5676 6020 6878 7014 7718
7841 7851 8197 8682 8825 9254 9498 9686 9688

HARMONIC ANALYSIS
1541 2777 3170

INTEGRATION
619 880 881 882 3934 4040 5260 5689 6322 6327
8757 9133 9143 9151 9663 10054

INTERPOLATION
44 872 883 1624 4049 4528 4877 4887 6516 6523
7413 7414

RELAXATION METHODS
7717

SEE ALSO--- DIFFERENCE EQUATIONS -- OPTIMAL AUTOMATIC CONTROL, GRADIENT TECHNIQUES -- SERIES EXPANSION AND OTHER APPROXIMATIONS -- STRUCTURES, FINITE ELEMENT METHODS

NUMERICAL CONTROL
1669 1670 3306

O

OCEANOGRAPHY
272 780 781 1540 1541 1613 2343 2345 2346 2678
3146 3172 3174 3600 3890 3940 3942 3943 3948 4549
4784 4786 4787 4788 4792 5079 5324 5589 5590 5591
5643 6141 6929 7309 7310 7311 7312 8143 8197 8198
8670 9019 9023 9024 9037 10051 10053 10054

SEE ALSO--- CURRENTS -- GRAVITY WAVES IN LIQUIDS, OCEAN -- HYDROLOGY -- METEOROLOGY -- SEISMOLOGY -- TIDES

OCEAN WAVES--- *SEE* GRAVITY WAVES IN LIQUIDS, OCEAN

OFF-SHORE STRUCTURES--- *SEE* STRUCTURES, OFF-SHORE

OPEN CHANNELS--- *SEE* CHANNELS

OPERATIONAL METHODS
42 57 638 845 906 2525 3290 3749 3758 3764
4975 5299 5436 6109 6206 6209 6621 7087 7137 7451
8313 8399 8830 8850

SEE ALSO--- DIFFERENTIAL EQUATIONS, ORDINARY -- DIFFERENTIAL EQUATIONS, PARTIAL

OPERATIONS RESEARCH
861 862 864 873 884 933 2423 3264 4036 4038
4051 4053 4875 4894 5671 5672 5687 6494 6496 6497
6498 6499 7410 7426 9117 9118 9123 9124 9125
NOVEMBER FEATURE ARTICLES

OPERATIONS RESEARCH *CONTINUED*

SEE ALSO--- DYNAMIC PROGRAMMING -- LINEAR AND NONLINEAR PROGRAMMING -- QUEUE THEORY

OPTICAL TECHNIQUES
1363 2847 2901 3691 4514 5373 9038

FLOW VISUALIZATION
2046 2169 2817 2837 2900 3026 3615 4618 5188 5369 6965 7893 8449 9629 9795

HIGH SPEED PHOTOGRAPHIC
8871

INTERFEROMETRIC
3226 3530 3969 4405 4576 5188 6441 8095 9832

LASER DOPPLER VELOCIMETER
568

MOIRE METHODS
331 332 1118 1119 1120 1885 1898 2719 2720 3524 3525 3531 4318 5124 5128 8421 8525 8574 9470 9471

OIL FILM PHOTOGRAPHS
2152 6207

SCHLIEREN
1311 1313 2026 4577 5366 5489 6105 6216 6974

SHADOWGRAPHIC
493 4515 8711

SEE ALSO--- DENSITY MEASUREMENT -- EXPERIMENTAL MECHANICS, ANALYSIS TECHNIQUES, OPTICAL -- HOLOGRAPHY -- PHOTOELASTICITY -- PHOTOPLASTICITY

OPTIMAL AUTOMATIC CONTROL
1175 1686 3789 4920 4936 5718 5722 6136 6137 6184 6575 6590 7020 7458 7459 8352 8358 8443

BOUNDARY VALUE PROBLEMS
1683 3264 4937 7467 8357

BOUNDED VARIABLES
1681 1688 3295 5721 7463 7465 7468 8347 8355 8356 9188 9192

CONTROLLABILITY AND OBSERVABILITY
901 904 2440 2450 3241 5703 5704 7432 7461 8318 9156

DIFFERENTIAL GAMES
924 929 2257 2498 3305 4058 4923 4929 4930 7469 8310 8348

DISCRETE AND SAMPLED DATA SYSTEMS
2486 4036 4927 8359 9195

DISTRIBUTED PARAMETER SYSTEMS
1688 2492 2493 4077 4910 4912 4925 4931 4933 4934 6559 6581 6586 7473 7474 8364 8365 8368 9183

GRADIENT TECHNIQUES
935 2487 2488 3118 3301 4875 5687 6576 7431 7466 8367

IDENTIFICATION
927 1683 6595 7448 9184

INVARIANT IMBEDDING AND QUASILINEARIZATION
928 4075 4915 7460 7462 7464

MAXIMUM PRINCIPLE
71 930 2478 2493 3303 4070 4072 4073 4927 5513 6574 6577 6579 6581 8284 9187 9194

MINIMUM FUEL
6331 9193

OPTIMAL AUTOMATIC CONTROL *CONTINUED*

NONLINEAR PROGRAMMING
863 3295 6496 6499

NUMERICAL TECHNIQUES
70 927 2482 5719 5725 8350

PERFORMANCE
72 1681 2485 4067 8349 8353

RANDOM SEARCH
2499 5711

REGULATOR PROBLEM
1682 2479 2481 3299 5700

SENSITIVITY
4073 4074 4914 6580 7467 7471 8371

SINGULAR CONTROL
4075 6579

STOCHASTIC
2483 2490 2491 3302 6582 6583 8361 8362

TIME OPTIMAL SYSTEMS
862 925 1680 1682 2484 2492 3296 4723 4931 5724 5728 6329 6480 8356 9183

TIME VARYING SYSTEMS
4921

SEE ALSO--- AUTOMATIC CONTROL -- CONTROL STABILITY -- DYNAMIC PROGRAMMING -- LEARNING SYSTEMS -- LINEAR AND NONLINEAR PROGRAMMING -- STATISTICAL CONTROL THEORY -- SUBOPTIMAL CONTROL -- TIME DELAY SYSTEMS -- VARIATIONAL METHODS

ORBIT MECHANICS
1445 2253 2272 2505 3110 4730 8385 8938

CONTINUOUS-BURN TRANSFERS
719 5533

DETERMINATION
705 718 880 1451 3860 3861 5507 6339 8113 9968

IMPULSIVE TRANSFERS
703 2254 2255 3876 5501 6321 6344 7209 9964

MODIFICATION
1446 7213

PARAMETER TRAJECTORY OPTIMIZATION
703 1446 9964

PREDICTION
1468 3099 6320

REENTRY
3117 9976

RENDEZVOUS
719 1477 2271 2275 3876 8112 8117 8952

SELECTION
5739 8941

STABILIZATION
1457 4727 9965

TRACKING
531 6323 8119

VARIATIONAL TRAJECTORY OPTIMIZATION
1448 1450 1477 2273 2274 2275 3859 5503 5505 5527 6324 7207 7208 8114 8120 9966

SEE ALSO--- INTERPLANETARY PROBES -- LUNAR MISSIONS -- RENDEZVOUS -- SPACE VEHICLE NAVIGATION

ORBIT MECHANICS *CONTINUED*
SEE ALSO--- *CONTINUED*

AND GUIDANCE

ORIFICES--- *SEE* FLOW MEASUREMENT, ORIFICES

OSCILLATIONS IN FLUIDS
416 442 529 534 538 540 1230 1671 2824 2932
4425 4444 4446 4543 5228 5231 5261 5336 5343 5344
6161 6450 6457 7050 7058 7830 7923 8644 8968

AIRFOIL AND WINGS, COMPRESSIBLE FLOW
445 2833

AIRFOIL AND WINGS, INCOMPRESSIBLE FLOW
5200 5225 7020

LIQUID IN A TUBE
533 9600

VORTEX-INDUCED
1141 5335 5337

SEE ALSO--- FLUTTER -- PLASMA (NON-MEDICAL), OSCILLATIONS -- UNSTEADY FLOW -- VIBRATION, FLUID -- WAVES

P

PANELS
399 4642

FLAT
9488 9519

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PARACHUTES
1438 1442 3098 4718 6346 7232 8105 8106 9960 9961
9962

SEE ALSO--- DECELERATORS, AERODYNAMIC

PARTIAL DIFFERENTIAL EQUATIONS--- *SEE* DIFFERENTIAL EQUATIONS, PARTIAL

PARTICLES
3915 7285 8026 8171 9678 10021 10022 10025

HEAT TRANSFER
1367 2142 3558 3757 5437 6218 7093 7094 7142 7484
8023 8024

MEASUREMENTS
744 1518 1519 1520 1521 2309 2326 2327 7280 7286

PHYSICAL PROPERTIES
1521 8175 10023

SEE ALSO--- DROPS -- DUST, PARTICLE SIZE DETERMINATION -- DUST, TRANSPORT -- DYNAMICS, PARTICLE -- GRANULAR MEDIA -- SPRAYS

PATTERN RECOGNITION
838 937 2497 3307 4051 4053 4083 4085 4895 4896
4897 5642 9135
MAY FEATURE ARTICLE

PAVEMENTS--- *SEE* HIGHWAYS AND RUNWAYS

PENDULUMS--- *SEE* VIBRATION, PENDULUMS

PENETRATION
1464 3115

SEE ALSO--- IMPACT, PENETRATION

PERFORMANCE
2923 3041 6274

AIRPLANES
2081 2085 8102 9896

ENGINES
1389 2216 3047 3828 4667

FLIGHT
2081 3119 3120 3121

HELICOPTER
1430 1433 1434 1436 6118

MISSILE
2924 2926 8950

OPTIMIZATION
510 516 2068 2265 2902 2915 2921 3102 3703 3705
4519 4727 5316 5504 6126

ROCKET MOTOR
1388 2207 2208 3058 8063

SHIPS
3190 3191

SPACECRAFT
3867 4730

TURBINES
5304 6267

VEHICLES
6134 7229 9426

SEE ALSO--- AUTOMATIC CONTROL, PERFORMANCE -- PROPELLANTS, PERFORMANCE -- SPACE VEHICLE PROPULSION, PERFORMANCE

PERMAFROST
1075 1843 3481 9412

PERMEABILITY OF SOILS--- *SEE* SOIL MECHANICS, PERMEABILITY

PERTURBATION THEORY
88 452 457 2069 2076 2863 2905 2911 3099 3195
3345 3696 3698 4520 4570 5236 5238 5240 5303 5383
5402 5408 5508 6112 6115 6117 6119 6217 6320 6410
7080 7137 8115 8839 9203 9206

PETROLEUM DEPOSITS--- *SEE* RESERVOIR ENGINEERING

PHASE CHANGES
586 591 592 626 629 1344 3012 3013 3014 3015
3775 3776 3777 4628 4646 4647 5423 5424 5425 5426
6232 7111 7112 7113 8850 8851

PHASE LOCKED SYSTEMS--- *SEE* AUTOMATIC CONTROL, PHASE LOCKED LOOPS

PHOTOELASTICITY
328 1113 1114 1115 1116 1886 2717 2718 3523 5121
5126 5938 5941 7703 7704 7705 8444 8570 9451 9466
9467 9469

DYNAMIC
2686 7713 9094

MATERIALS
291 4311 7702

SCATTERED LIGHT
1112 5120

THREE-DIMENSIONAL
311 326 329 330 1111 4312 9468

SEE ALSO--- PHOTOVISCOELASTICITY -- STRESS AND STRAIN, ANALYSIS

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1363

HIGH SPEED
1124 1355 2965 7114 8871

PHOTOPLASTICITY
8571

MATERIALS
2533

PHOTOVISCOELASTICITY
2400

PIERS--- *SEE* FOUNDATIONS, PIERS

PIEZOELECTRICS
17 223 241 2301 2462 3901 7387 9241

SEE ALSO--- VIBRATION, PIEZOELECTRIC DEVICES

PILES
276 292 2684 2685 2686 6783 7742 8659 9606

SEE ALSO--- FOUNDATIONS, PILES

PIPE FLOW
539 2808 7818 9630

CAPILLARY
9595

COMPRESSIBLE
2825 2827 6210 9655

EXPERIMENTAL RESULTS
1204 5444 6013 8691

FLEXIBLE WALLS
1299 3464 5332 5334 6022 9775 9776

INCOMPRESSIBLE
672 2220 4392 6278 7175 9925 9929

INLET FLOW
1211 1260 1994 2006 2999 3760 4605 4631 5393 6198
6210 7104 7991 7993 8674 8691 8725 9621 9628 9819

LAMINAR
435 1207 1211 1991 2807 2814 2964 2993 2994 4605
5444 5998 6200 6210 7993 8674 9621 9825

LOSSES IN BENDS, FITTINGS, AND MANIFOLDS
410 3616 6030 7100 8651 9602 9654

MULTICOMPONENT
2812 7820 8023 8024 8684 9639

MULTIPHASE
9670

NONCIRCULAR PIPE
2145 2172 2994 3023 3759 3768 3770 4637 5393 6004
6198 6200 7013 7787 7793 7988 8006 8750 8840 9621
9628 9639 9701 9825 9831

NON-NEWTONIAN
1969 2155 3787 4617 4619 5186 6912 7104 7105 7787
7791 7792 7793 8010 9543 9595

NON-STEADY
1194 1207 1211 1212 1298 1299 1392 2943 3755 5186
6064 7089 8713 9827

POROUS WALLS
1193 2060 5444 6945 7859 8694 9625 9627 9701

PRESSURE DROP
403 430 1193 1194 1360 1969 2172 2997 3023 5998
6013 7889 9602 9632

PIPE FLOW *CONTINUED*

ROUGHNESS AND WALL SHEAR
430 1184 1327 1331 4388 4389 5232 5400 8025 9625

SEDIMENT TRANSPORT
3914 6013

SHORT TUBES
9595

TRANSITIONAL
5297 9593 9647

TRANSPORT OF SOLIDS
147 2142 8023 8024

TURBULENT
498 504 1261 1262 3464 3689 3690 5294 5300 6004
6074 6198 6199 6200 7013 7015 7861 7889 7936 8750
8751 9701 9733

TWO-PHASE
1360 1969 2144 5227 5403 6243 7114 7994 7995 8873
9632 9633 9634 9635 9636 9638 9829 9861

SEE ALSO--- FLOW, INTERNAL, DUCTS

PIPES AND TUBES
163 1036 1743 5014 5162 5804 5808 5809 7567 9591

PRESSURIZED
103 155 167 1018 1131 1504 1765 3400 4117 5010
6641 8610 9318

SEE ALSO--- BUCKLING, PIPES AND TUBES --
CONCRETE AND MASONRY, PIPES -- PRESSURE VESSELS --
THERMOELASTICITY, TUBES

PIPING SYSTEMS
594 1185 1971 4368 5163 7747 7748 8613 8614 8867
9492 9548

PLANING SURFACES
3958 9616

SEE ALSO--- HYDROFOILS

PLASMA (MEDICAL)
822 2383 2384 3220 3578 3974 3976 3977 5639 10097

PLASMA (NON-MEDICAL)

BEAM-PLASMA INTERACTIONS
1401 1402 2836 4683 7184 8081

DIAGNOSTICS
1411 1419 1420 2236 2244 3845 5489 5490 5492 6303
6306 6307 7195 8082 8095 9933 9946

EXPERIMENTAL
679 4686 4687 4691 5491 7187 8927 9947

FUSION
694 3843 8907 9943 9944

GENERAL THEORY
692 1409 2234 3849 3850 7185 7186

GENERATORS
693 7961 8930

HEAT TRANSFER
3080 3851 9938

HIGH ALTITUDE
1410 1412

OSCILLATIONS
690 1400 1404 5477 5483 7182 7183

PLASMA (NON-MEDICAL) *CONTINUED*

STABILITY, CONTINUUM THEORY
691 1405 2233 2239 3078 4684 6286 8073 9932

STABILITY, KINETIC THEORY
2232 3079 8079

THERMODYNAMIC PROPERTIES
1415 2237 2238 7190

TRANSPORT PROPERTIES
1413 5481 5484 8921 9931 9934 9935 9936

WAVES, ACOUSTIC
3835 6283 8903 8906 9919

WAVES, ELECTROMAGNETIC, LINEAR
675 676 677 2011 3072 3081 3836 4676 5471 5473
8074 8904 8924

WAVES, ELECTROMAGNETIC, NONLINEAR
684 1403 1406 5480 9937

WAVES, ELECTROSTATIC
2240 6291 6292 8918

WAVES, GENERATION
686 7960

WAVES, ION
686 695 2231 3838 3844

WAVES, MAGNETO-FLUID-DYNAMIC, LINEAR
673 681 2222 3077 4675 6285 8901 9914 9921

WAVES, MAGNETO-FLUID-DYNAMIC, NONLINEAR
678 3837 5479 8905 9918

SEE ALSO--- ARCS -- HEAT TRANSFER, PLASMA -- JETS, PLASMA -- KINETIC THEORY, PLASMAS -- MAGNETO-FLUID-DYNAMICS -- SPACE VEHICLE PROPULSION, PLASMA -- WIND TUNNEL, PLASMA

PLASTIC WAVES--- *SEE* WAVES, PLASTIC

PLASTICITY
2 1565 2533 2733 4122 4845 5146 5147 6822 8523

CONSTITUTIVE EQUATIONS
951 961 1397 1398 1589 1732 1734 1736 1737 2398
2535 2537 3237 3347 3348 3350 3358 4121 4125 4976
6464 6635 6636 8402 8405 8408 9253

MATHEMATICAL THEORY
958 1731 1737 1739 2535 2537 3203 3347 3354 3355
4123 4128 4973 4975 4977 5774 6627 6634 6636 6639
6643 8402 8406 8407 8540 9258

MATHEMATICAL THEORY, THREE-DIMENSIONAL
308 955 957 3348 3349 5774 6642 7527 7678 8408
9434

MATHEMATICAL THEORY, TWO-DIMENSIONAL
960 1735 1856 3359 3360 3494 4121 4125 4126 4127
5902 6637 6794 7526 8405 9252 9254

MEASUREMENTS
115 964 965 966 1732 2534 4126 4974 4985 7333
7532 8403 8404 9434

PHYSICAL THEORY
109 113 956 959 962 1734 3228 4124 4978 4980
5773 6633 8409 9251 9258

SLIP-LINE METHODS
309 1857 2697 4286 5099 5901 6634 7527 9441

SEE ALSO--- BEAMS, PLASTIC DEFORMATION -- BUCKLING, PLASTIC -- CONTINUUM MECHANICS, CONSTITUTIVE EQUATIONS -- CREEP -- CUTTING PROCESSES -- DISLOCATION THEORY -- DRAWING --

PLASTICITY *CONTINUED*
SEE ALSO--- *CONTINUED*

DUCTILITY -- ELASTOPLASTICITY -- ENERGY METHODS -- EXTRUDING -- LIMIT DESIGN AND ANALYSIS -- PLATES, PLASTIC DEFORMATION -- ROLLING -- SHELLS, PLASTIC -- SHELLS, PLASTIC DEFORMATION -- SOIL MECHANICS, PLASTICITY -- STRAIN HARDENING -- STRESS AND STRAIN, RESIDUAL -- SUPERPLASTICS -- THERMOPLASTICITY -- TORSION, PLASTIC -- VARIATIONAL METHODS, PLASTICITY -- VISCOELASTICITY -- VISCOPLASTICITY

PLASTICS
1169 2357 2359 2360 2361 2363 3746 4304 4324 4328
4331 5108 5871 8222 8227 9052 9249 9453 9463 9492

REINFORCED
2533 2556 2706 3372 3373 3375 4135 5160 6245 6628
6650 6795 7535 8422 9262 9264 9265 9269

PLATES
2 1148 1583 2570 3997 5004 6662 9079

ANISOTROPIC
1503 1758 2586 2587 3402 4127 4168 5009 7531 7563
8432

BENDING
149 152 153 745 982 983 1002 1119 1591 1728
1748 2568 2569 2738 3387 3388 3389 3391 3401 3403
4151 4176 4999 5797 6626 6664 7495 7548 7549 7550
7551 7552 7554 7555 8435 8441 9279 9280

BENDING, ELASTIC
2571 2572 5695 6174 6481 6665 6666 6671

BENDING, PLASTIC
3353 4975 6635 6644 8404

BENDING, STIFFENED
1749

CIRCULAR
151 174 3390 4152 5770 5799 6635 6644

COMBINED LOADS
151 2595 2891 3359 3390

CREEP
105 954 1728 2530 5770 6624 6626

DYNAMIC LOADING
251 1749 2247 2632 3353

FINITE DEFORMATIONS
174 2698 5012 6675 6676 8431 8442 8547

FINITE ELEMENT METHODS
1728 3316 3391 8132 8430 9252 9281 9346

FOLDED
150 3415 4153 5956 7553 7751 7752 8434

LARGE DEFLECTIONS
4156 6626

NONHOMOGENEOUS
2600 3434 4104 5796 6675 9295

NONLINEAR
999 1759 5012 8433

ORTHOTROPIC
2588 2632 4858 7734 8400

PERFORATED
997

PLASTIC DEFORMATION
1733 1750 2698 3359 4104 4127 4150 4974 4985 5009
6676 7531 8547 9280 9388

PLATES *CONTINUED*

REINFORCED CONCRETE
170

SANDWICH
1759 1760 4169 7519 7566 8420

SKEW
8436

STIFFENED
998 2521 2585 3379 4148 4149 4179 4192 5799 5800

TENSION
105 454

THICK
5805 5810 8443 9295

WEAKENED
148 1715 1718 1733 2591 2592 3323 3324 3386 3403
4455 4456 4458 4459 5747 5751 5752 5762 5798 7507
8167 9294

WELDED
1864

SEE ALSO--- BUCKLING, PLATES -- CRACK PROPOGATION -- DISKS -- ELASTIC FOUNDATIONS, PLATES -- ENERGY METHODS -- IMPACT, PLATES -- LIMIT DESIGN AND ANALYSIS, PLATES -- PANELS -- REINFORCED CONCRETE -- SANDWICH CONSTRUCTION -- STRUCTURES, FINITE ELEMENT METHODS -- THERMOELASTICITY, PLATES -- TORSION, PLATES -- VIBRATION, PLATES -- WAVES, PLATES AND SHELLS

POISEUILLE FLOW--- *SEE* FLOW, INCOMPRESSIBLE, POISEUILLE

POLLUTION
2433 10020

AIR
790 7286 7801 9881 9888

SEE ALSO--- NOISE, POLLUTION

POLYMERS
312 405 1592 1730 2332 2363 2531 2674 2790 3346
3520 3581 4115 4472 6245 6632 6814 6832 7518 7520
7522 7793 8222 8227 8499 8518 9052 9251 9487 9594
9597 10074 10085

DILUTE SOLUTIONS
403 2787 5188 5311 5999 6013 6415 7790 7794 8648
9595 9598

SEE ALSO--- PLASTICS

PORE PRESSURE
1844 5879 5883 5884 5895

POROUS MEDIA
1366 1981 2330 2396 3035 5394 6042 6209 6772 7084
7086 8002 8030 9624 9643

ANISOTROPIC
7288 9606

CHARACTERISTICS
5077 6409 9405 9411 9433

COMPRESSIBLE FLUID FLOW
764 1218 1225 1524 1525 3914 3921 3922 4471 4776

INCOMPRESSIBLE FLUID FLOW
761 762 764 765 1526 1528 1530 3922 4405 4773
4774 4775 4777 5211 6403 6404 6405 6406 6407 7287
7288 7289 7290 7292 7293 7294 7296 7297 7299 7386
8181 8182 8186 9410 10028 10032 10034 10037 10038

POROUS MEDIA *CONTINUED*

TWO-PHASE FLUID FLOW
770 5432 5582 6404 6406 7291 7296 7300 8185 8186

SEE ALSO--- BED, FLUIDIZED -- FILTRATION -- GRANULAR MEDIA, FLOW THROUGH -- HEAT TRANSFER, POROUS MEDIA -- HYDROLOGY, GROUNDWATER -- MICROMERITICS -- SEEPAGE -- SOIL MECHANICS, PERMEABILITY -- WAVES, POROUS MEDIA

POTENTIAL THEORY
451 3647

FLUID FLOW
8668 9106 9619 9797

FLUID FLOW, AXISYMMETRIC
1192 1609 9615 9620

FLUID FLOW, PLANE
510 512 1205 2069 4406 4410 4531 5200 9613 9618

FLUID FLOW, WITH SINGULARITIES
1192 1263 1268 2093 7022 7913 7914 7916 8665 8754
8755 8762 8763 9738 9750

SOLID MECHANICS
9256 10045

POWER PLANTS
252 628 1384 2438 3816 5141 5520 9601

GAS TURBINES
662 2171 3023 4637 5414 6266 9887

HYDROELECTRIC
3719 7064 7443 7947 9355 9604

NUCLEAR
3002 3783 4613 5161 6238 7167 8067 8853 9049 9864

STEAM
632 934 1360 1382 3051 4639 4640 4644 5435 6221
6238 6570 8021 8866 9167

STEAM-GAS
663 1329

SEE ALSO--- FLUID POWER

PRECIPITATION--- *SEE* HYDROLOGY, RAINFALL

PRESSURE MEASUREMENT
478 1546 4572 4575 4652 5363 5364 5365 5599 6170
6171 6172

GAGES
5548

TRANSDUCERS
743 1312 2960 2961 9489

SEE ALSO--- FLOW MEASUREMENT -- PIEZOELECTRICS -- PRESTON TUBE -- TRANSDUCERS

PRESSURE VESSELS
1091 1092 1093 2759 4294 4366 4367 5370 9539

ANALYSIS
370 371 372 1166 1931 1932 3555 4833 6869 6870
7746 9537 9538
JULY FEATURE ARTICLE

COMPOSITE
5160

DESIGN
6868 6871 8611 8612

PRESTRESSED
2758 7745

PRESSURE VESSELS *CONTINUED*

REACTOR
4252 4363 4365

TESTING
1167 1168 1169 5169

SEE ALSO--- BOILERS -- HIGH PRESSURE -- NOZZLES -- PIPES AND TUBES, PRESSURIZED

PRESSURE WAVES---*SEE* WAVES, COMPRESSIONAL

PRESTON TUBE
420 4800

SEE ALSO--- INSTRUMENTS

PRESTRESSED CONCRETE
362 363 2744 2758 3548 4349 4350 4351 4363 4365 5156 5964 9508 9517 9518

PRESTRESSED STRUCTURES--- *SEE* STRUCTURES, PRESTRESSED

PROBABILITY THEORY
36 1162 2418 3265 6494 7390 7724 8273 8621

SEE ALSO--- ERROR, THEORY -- FAILURE, PROBABILITY THEORY

PROGRAMMING--- *SEE* CODING AND PROGRAMMING

PROJECTILES
3303 9981 9982

SEE ALSO--- MISSILES

PROPAGATION---*SEE* UNDER MODIFIER

PROPELLANTS

BURNING RATE
5958

HYPERGOLIC
654

LIQUID
1431 3870

PERFORMANCE
656 1377 3807

SOLID
2194 2197 2529 5540

SEE ALSO--- COMBUSTION, PROPELLANTS -- FUELS -- IGNITION -- SPACE VEHICLE PROPULSION

PROPELLERS
2634 3198 3729

AIRPLANES
2078 6167 7956

DUCTED
5610 7020 8962

MARINE
3196 3727 3728 4568 4807 7018 7070 7950 10071 10072

SEE ALSO--- CAVITATION, PROPELLERS -- VIBRATION, PROPELLERS

PROPULSION---*SEE* UNDER MODIFIERS

PUMPS
551 1304 3723 5350 8790 9789

AXIAL
1308 7069 7071

PUMPS *CONTINUED*

CENTRIFUGAL
2114 2955 2956 3723 5351 6165 7068

FLOW CHARACTERISTICS
552 1307 1310 2109 3723 4567 7064 7946 7947 9783 9784

MAGNETO-FLUID-DYNAMIC
1393 1417 1418 7174 7194 8084 8092 8929

POSITIVE DISPLACEMENT
2112 9787

SEE ALSO--- CAVITATION, PUMPS -- EJECTORS -- JET PUMPS

Q

QUANTUM MECHANICS--- *SEE* DYNAMICS, QUANTUM MECHANICS

QUEUE THEORY
38 865

R

RADIATION
624 2156 2157 2158 2159 2160 3006 3007 3008 3009 3010 6063 6228 6229 7106 7107 7108 7224 7990 7990 8011 8012 8013 8842 8843 8844 8845 8846 8847 8848 9848 9849 9852 9970

DAMAGE
9390

PROPERTIES
4591 5419 5422 7109 7110 7516 7521 8013 8849 8866 8870 9853

SEE ALSO--- HEAT TRANSFER, RADIATION

RADIATION PRESSURE
3103 5511

RADIOACTIVE
9029 9053

ISOTOPE TRACERS
290 2349 2356 6932 6934 6935 6936 7808 7809 7810 8026 9041 9868

RAILROAD SYSTEMS

EQUIPMENT
5950 6435

HIGH SPEED TRAINS
1934

LOCOMOTIVES
6890

SEE ALSO--- VEHICLES, RAILWAY TRAINS

RAILS
741 1935 1936 9271

SEE ALSO--- BRIDGES, RAILROAD

RAINDROPS--- *SEE* DROPS

RAINFALL--- *SEE* HYDROLOGY, RAINFALL

RAMJETS ---*SEE* JET ENGINES, RAMJET

RANDOM PROCESSES--- *SEE* STOCHASTIC PROCESSES

RAREFIED GASES
474 478 1238 1239 2034 2035 2036 2858 2861 3653
3654 4034 4462 4463 4466 4467 4468 4469 4472 4473
5262 5263 5264 5266 6049 6069 6072 6986 8701 8715
8716 8717 8718 8722 9691 9692

BEAM EXPERIMENTS
2037 3655 3656

FREE-MOLECULE FLOW
476 1420 2859 4470 4471 4536 4647 6073 6987 7999

GAS-SURFACE INTERACTIONS
2860 8087 9690

JUMP CONDITIONS
9836

SLIP FLOW
448 477 1237 2154 2916 5268 6070 6113 8719 8720
8721 9693 9836

TRANSITION FLOW
473 2154 2856 2857 6071

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RATIONAL MECHANICS--- *SEE* CONTINUUM MECHANICS

REACTION KINETICS--- *SEE* COMBUSTION, REACTION KINETICS

REACTORS
2210

CHEMICAL
636 7392 7445 8069

NUCLEAR
363 670 1125 1332 1350 1390 1391 1663 2211 2212
3002 3018 3060 3061 3245 3729 3780 3783 4252 4613
4629 5161 5433 5466 5467 5661 6241 6274 6572 6882
7083 7102 7642 7715 7819 8068 8477 8555 8609 8820
9469 9540 9855 9897 9898 9900 9901 9902 9903 9904

SEE ALSO--- HEAT EXCHANGERS, NUCLEAR REACTORS -- PRESSURE VESSELS, REACTOR -- RADIATION, DAMAGE -- STRUCTURES, REACTORS -- THERMOELASTICITY

RECOVERY SYSTEMS
2077 2079

REDUNDANT STRUCTURES--- *SEE* STRUCTURES, STATICALLY INDETERMINATE

REENTRY
1458 1459 1468 1469 1470 1471 1472 2017 3118 3628
3629 3630 3873 4455 4457 5526 5527 6045 6338 7034
7035 7225 7226 7227 7228 8766 8957 9753 9754

SEE ALSO--- ORBIT MECHANICS, REENTRY -- SPACE VEHICLE HEAT TRANSFER, REENTRY

REFLECTION
535 2156

SEE ALSO--- INTERFACE PHENOMENA -- SOUND, REFLECTION

REFRACTION
2354 6259

SEE ALSO--- INTERFACE PHENOMENA -- SOUND, REFRACTION

REFRACTORIES
400

SEE ALSO--- FURNACES -- MATERIAL TEST TECHNIQUES

REFRIGERATION, AIRCONDITIONING
1326 2984 3781 4641 9818

ABSORPTION
8887

SEE ALSO--- THERMOELECTRIC PHENOMENA, REFRIGERATION

REGENERATORS
3023 3025 3788 3790 6242 8863 8868

SEE ALSO--- AIR PREHEATERS -- HEAT EXCHANGERS

REINFORCED CONCRETE
1011 3545 3547 4182 5156 8481

DESIGN, LIMIT
4346 8582

SLABS
2746 2747 5970

STRUCTURAL ANALYSIS METHODS
1918 3544 4345 4347 6872 6873 9510

TESTS AND TESTING
355 1916 3546 9511 9546

ULTIMATE STRENGTH
4348 9512

SEE ALSO--- ARCHES AND VAULTS -- BEAMS, REINFORCED CONCRETE -- COLUMNS, REINFORCED CONCRETE -- CONCRETE AND MASONRY -- FATIGUE -- FOUNDATIONS -- PLATES, REINFORCED CONCRETE -- SHELLS, REINFORCED CONCRETE -- STRESS AND STRAIN -- STRUCTURES

REINFORCED MATERIALS--- *SEE* COMPOSITE MATERIALS, REINFORCED

RELATIVITY
1475 2511 2832 3250 3251 3626 4007 4008 4675 4854
4855 6477 6478 7388 7389 7488 8272 9212 9213

RELAXATION METHODS--- *SEE* NUMERICAL ANALYSIS, RELAXATION METHODS

RELIABILITY
1162 1812 4386 8636 9899

SEE ALSO--- STRUCTURES, RELIABILITY ANALYSIS

RENDEZVOUS--- *SEE* ORBIT MECHANICS, RENDEZVOUS

RESERVOIR ENGINEERING
1530 2341 2942 5583 7798 9428

SEE ALSO--- FILTRATION -- GEOPHYSICS, EXPLORATION -- POROUS MEDIA -- SEEPAGE -- WELLS

RESIDUAL STRESS AND STRAIN---*SEE* STRESS AND STRAIN, RESIDUAL

RESONANCE--- *SEE* VIBRATION, RESONANCE

RETAINING WALLS--- *SEE* WALLS, RETAINING

RETROROCKET
4451

REYNOLDS ANALOGY
482 9824

RHEOLOGY
844 1598 1962 3964 4115 10083

COLLOIDS AND SUSPENSIONS
407 408 409 1966 2788 2789 3580 7371 7791 7796
9599

CONSTITUTIVE EQUATIONS
405 406 407 494 1592 1961 1965 2780 2781 2782
3582 5185 6003 6789 6911 7371 7787 8534 9594 9595

DYNAMIC PROPERTIES
1963 3396 3579 5564 9407 9592 9599

MEASUREMENTS
282 403 404 1964 1966 2788 2790 3578 3579 5999
6914 7794 7795 8648 8650 9413 9417

SEE ALSO--- CONTINUUM MECHANICS, CONSTITUTIVE EQUATIONS -- FLOW, INCOMPRESSIBLE, NON-NEWTONIAN -- NON-NEWTONIAN FLOW -- PLASTICITY -- VISCOELASTICITY -- VISCOPLASTICITY

RINGS--- *SEE* ARCHES AND VAULTS

RIVERS--- *SEE* STREAMS, NATURAL

ROAD BEDS--- *SEE* HIGHWAYS AND RUNWAYS

ROCK MECHANICS
837 1570 1850 1855 3924 4276 5090 7670 10044

DYNAMICS
302 1085 5919 8524

MATERIAL PROPERTIES
280 302 303 304 1080 1082 1083 1084 1535 2689
2691 2694 2695 3491 3492 3493 4274 4278 4280 4282
5898 6791 7672 8533 8536 8537 9432 9433

STRESS ANALYSIS
299 300 1079 1080 1081 1851 1852 1853 1854 2691
2693 3491 3492 4275 4277 4279 4281 5091 5892 5896
6788 6789 6790 6792 7671 7673 7674 7675 8533 8534
8535 9431 9432

TESTING METHODS
303 304 306 307 1082 1083 1086 2695 3493 4283
5089 5092 5093 5094 5897 5898 6791 6793 7671 7675
7676 8538 8539 9433

SEE ALSO--- SEISMOLOGY -- SOIL MECHANICS, EARTH PRESSURE

ROCKETS
938 2834 5465 6353 8129 8970 9894

COMBUSTION CHAMBERS
5468

CONTROL
78 1694 4918

FAILURE
5542

GASEOUS FUEL
8064

LIQUID FUEL
3803 5519 7159 8043 8063

MOTORS
1372 2191 3045 3824 4313 5120 6261 7159 8890 9816
9892

NOZZLES
468 469 470 668 2025 2028 2846 2850 3638 4451
5246 5255 5447 7160 7161 7162 8535 8890 9893

NUCLEAR
666 3063 5454 9816 9973

ROCKETS *CONTINUED*

SOLID FUEL
667 2191 6622

SEE ALSO--- FUELS -- METEOROLOGY, ROCKETS AND SATELLITES -- MISSILES -- PERFORMANCE, ROCKET MOTOR -- SPACE VEHICLE DESIGN -- SPACE VEHICLE HEAT TRANSFER, ROCKET MOTORS -- SPACE VEHICLE POWER -- SPACE VEHICLE PROPULSION -- THRUST, ROCKET -- VIBRATION, MISSILES AND ROCKETS

RODS--- *SEE* BEAMS

ROLLING
1859 2697 5097 5903 5904 6194 6797 6798 6799 7677
9057 9440 9441 9442
SEPTEMBER FEATURE ARTICLE

SEE ALSO--- DRAWING -- EXTRUDING -- FORGING -- FORMING

ROPES--- *SEE* CABLES AND FLEXIBLE FILAMENTS

ROTATING CYLINDERS, FLOW BETWEEN
601 1964 2062 2857 2898 7088 8864 8896 9600

ROTATING DISKS
1242 2599 2629 3601 3605 4408 4418 4601 5350 6161
6661 7568 7569 7570 7817 8676 9624 9651

FLOW BETWEEN
1241 1242 1964 3622 3758 4479 5397 7786 7789 8861
9824 9907

STRESSES
95 175 5015 8444

SEE ALSO--- VIBRATION, ROTATING DISKS

ROTATIONAL FLOW
438 533 538 1194 1195 1208 1303 1964 2803 2804
3084 3595 3599 3600 3601 3718 3840 4416 4426 4436
4679 4685 5213 5472 5486 6025 6139 6147 6162 6947
7813 7832 8670 8675 8678 8681 8913 9765 9777

SEE ALSO--- FLOW, INCOMPRESSIBLE, NONVISCOUS, ROTATIONAL -- ROTATING CYLINDERS, FLOW BETWEEN -- ROTATING DISKS, FLOW BETWEEN -- VORTEX FLOW

RUDDERS
7018

RUNOFF--- *SEE* HYDROLOGY, RUNOFF

RUNWAYS--- *SEE* HIGHWAYS AND RUNWAYS

S

SAMPLING OF DATA
56

SEE ALSO--- AUTOMATIC CONTROL, DISCRETE AND SAMPLED DATA SYSTEMS -- OPTIMAL AUTOMATIC CONTROL, DISCRETE AND SAMPLED DATA SYSTEMS

SAND
270 1072 1195 2679 2821 2933 4265 4421 5081 5212
5580 5878 5883 6019 6031 6042 7653 8023 9408

SANDWICH CONSTRUCTION
2740 4352 6623

BEAMS
1913 9274

PLATES
9291

SANDWICH CONSTRUCTION *CONTINUED*

SEE ALSO--- BEAMS, SANDWICH -- BUCKLING, SANDWICH CONSTRUCTION -- PLATES, SANDWICH -- SHELLS, SANDWICH -- THERMOELASTICITY, SANDWICH CONSTRUCTION

SANITARY ENGINEERING
415 3164 4882 9611

SATELLITES
704 716 803 2271 8385

SEE ALSO--- ARTIFICIAL SATELLITES -- ORBIT MECHANICS -- RADIATION PRESSURE

SCALE EFFECT
1283 1284 1547 3511 3880 7077 9447

SEE ALSO--- MODEL STUDIES

SCHLIEREN METHOD--- *SEE* OPTICAL TECHNIQUES, SCHLIEREN

SCRAMJET--- *SEE* JET ENGINES, SCRAMJET

SCREENS--- *SEE* GRIDS AND SCREENS

SCREWS
7759 8634

SEE ALSO--- JOINTS AND JOINING PROCESSES, BOLTED

SEALS
1572 2775 3564 3577 5989 5990 6893 8632 9563

LABYRINTH
5214 6164 8235

VISCOUS
4384 7339 7343

SECONDARY FLOW
2814 2997 3004 4558 6030 6031 8675

COMPRESSIBLE
4562 7943

INCOMPRESSIBLE
1973 4427 6163 6211 6226 6912 7100 7786 7826 9828

SEE ALSO--- FLOW, INCOMPRESSIBLE, VISCOUS, SECONDARY

SEDIMENT TRANSPORT
411 422 1980 1984 1985 2800 2813 3589 3590 3914
4403 4404 5197 5199 5218 5272 5580 6010 6011 6012
6014 6391 6392 6393 6775 6916 6917 6928 6929 6930
6934 6935 6936 7282 7804 7805 8173 8660 8661 9008
9014 9608 9609 9610 10024

SEE ALSO--- CHANNELS, SEDIMENTATION -- PIPE FLOW, SEDIMENT TRANSPORT

SEDIMENTATION
422 1196 1200 1983 4403 5198 6008 6931 6932 7803
7808 7809 7810

SEEPAGE
765 766 2331 4271 7294 7666 7804 8184 9606 10033

SEE ALSO--- WELLS

SEISMOLOGY
2764 3925 3931 3932 3935 3938 4377 4782 5584 5587
5588 5980 6410 6411 6412 6416 7302 8188 8189 9016
9017 9549 10041 10048 10044 10047

EARTHQUAKES
772 773 774 1073 1532 1533 2333 2334 2335 2336
2337 2338 2339 3166 3167 3168 3923 3924 3933 3936
3939 4267 4376 4778 4779 4780 4781 5585 6775 7303

SEISMOLOGY *CONTINUED*
EARTHQUAKES *CONTINUED*
7304 8191 8192 9015 9018 9547 10042 10046

EXPLOSIONQUAKES
2337 3165 3169 3926 3927 3928 3929 3930 4780 5586
6415 8190 8194

SEE ALSO--- GEOPHYSICS, EXPLORATION -- LOADS, EARTHQUAKE -- WAVES, SEISMIC

SELF IGNITION---*SEE* IGNITION, SELF

SEMICONDUCTORS
8004

SEPARATION--- *SEE* FLOW, SEPARATION

SERIES EXPANSION AND OTHER APPROXIMATIONS
587 589 869 1251 1342 2039 2054 2137 2139 2426
3272 3763 3772 4608 5404 5408 6213 6231 7081 9097
9126

FOURIER SERIES
870 1618 1691 2147 2991 7982 8273 8288

SERIES IN OTHER SETS OF FUNCTIONS
2427 4116 5674 6119 6501

SERIES OF OTHER ORTHOGONAL FUNCTIONS
45 4880 6502 7476

SETTLEMENT OF SOILS--- *SEE* SOIL MECHANICS

SEWAGE
415 5196

SEWERAGE

FLOW
9611

SHAFTS
2630

CRITICAL SPEED
217 1303 6447 9342

WHIRLING
1040 1303 2629 3441 3459 4220 5630 6446 7600 8240
8241

SEE ALSO--- THERMOELASTICITY, SHAFTS -- TORSION, SHAFTS -- VIBRATION, SHAFTS

SHAPING
5910

SHEAR LAYER
438 1190 3639 3650 4539 7882

LAMINAR
6447 7884

STABILITY AND TRANSITION
472 2890

TURBULENT
4430 6105 8646 9642 9732

SEE ALSO--- BOUNDARY LAYER -- JETS -- PRESTON TUBE -- WAKES

SHEET STRINGER PANELS--- *SEE* PLATES, STIFFENED

SHELLS
2 1583 1585 2573 5004 6662 9287

ANISOTROPIC
4170 4201 7565 7678 8463 9289

SHELLS *CONTINUED*

BELLOWS
1946 5163

BENDING, ARBITRARY SHAPE
5793

BENDING, AXISYMMETRIC
159 162 171 987 990 3352 3397 4120 4164 4170
4971 6532 9283

COMBINED LOADING
112 5771

CONICAL
146 183 994 2576 2619 4158 4170 4200 5819 7562
8460 8522

CREEP
103 953 2530 4119 4120 4971 5771 7562

CYLINDRICAL
147 155 156 256 988 989 991 1731 1753 1755
2567 2575 2577 2580 3352 4120 4165 4971 5001 5002
5005 5007 5008 5759 5771 7606 9306

CYLINDRICAL, STIFFENED
166 167 168 2613 4177 5010 7514

CYLINDRICAL, THICK
103 1931 5809 6641 7514

CYLINDRICAL, THIN
4117 7678

DYNAMIC LOADING
256 2589 2673 3406 3450 6674 6762 7606

ELLIPSOIDAL
6802

FINITE ELEMENT METHODS
160 1756 2530 2664 4171 5006 8437

GENERAL THEORY
157 158 980 995 1754 2575 2578 2579 2582 3399
5000 5003 5066 5790 9278

HELICAL
5794 5795

HYPERBOLIC
4160 4162

HYPERBOLIC PARABOLOID
4164 5966

INTERSECTING
5791

LARGE DEFORMATION
172 996 1001 1761 2593 2594 5011 5013 5801 5803
6674 6680 8437

LOCAL BENDING
161 165 9278 9285

LOCAL STRESSES
156 5803

NONHOMOGENEOUS
3339 3340 6679 9290

NONLINEAR
173 1752 2596 3398 4157 6673

PLASTIC
1001 1731 7678 9438

PLASTIC DFFORMATION
112 2597 3352 4163 4175 5802 5806 6641 6677 9292

SHELLS *CONTINUED*
PLASTIC DEFORMATION *CONTINUED*
JULY FEATURE ARTICLE

REINFORCED CONCRETE
1919

REVOLUTION
985 992 996 2533 2574 2582 2583 2584 2589 3395
3396 3404 4161 4162 4163 5790 5802 7560 7561 8438
8439

SANDWICH
994 3374 5007 6647

SHALLOW
984 1761 4119 4160 4166 4193 5000 5793 6668 6669
6670 7558 7559 7584 8439 8456 9284 9285 9288

SPHERICAL
953 993 2596 3320 3339 3406 3450 4119 4166 5803
5806 5807 6802 8429

STIFFENED
2574 2581 2590 3405 4159 4171

TOROIDAL
1757 2593 5792

WITH OPENINGS
953 986 3393 4173 6670 6678 7558 7564 9231

SEE ALSO--- ENERGY METHODS -- FLUTTER, SHELLS -- IMPACT, SHELLS -- LIMIT DESIGN AND ANALYSIS, SHELLS -- PIPES AND TUBES -- STRUCTURES, FINITE ELEMENT METHODS -- STRUCTURES, SILOS -- THERMOELASTICITY, SHELLS -- TORSION, SHELLS -- VIBRATION, SHELLS

SHIP--- *SEE* MARINE ENGINEERING

SHOCK
4735

ABSORBERS
245 2655 4232

SEE ALSO--- IMPACT

SHOCK TUBES
622 1224 2243 2842 2852 2855 2968 2969 2977 3791
4458 5373 5417 5421 6051 6063 6175 6224 6225 6968
6972 7196 7957 7958 7959 8007 8036 8649 8705 8802
9846

MAGNETIC
683 685 1414 4678 6298 7960 8700 8925

TUNNELS
455 2016 2017 2853 3791 4443 4456 4614 9799 9846

SHOCK WAVES IN FLUIDS
462 463 1222 1228 1229 1236 1340 2852 3033 3632
3634 3635 3773 3774 4447 4448 4458 4460 4465 4651
4736 5241 5243 5245 5562 6053 6054 6056 6224 6230
6231 6961 6962 6967 6973 6984 7044 7059 7103 7147
7238 7839 7843 7844 7846 7856 8007 8695 8699 8700
8701 8711 8714 8845 8848 8954 9659 9669 9671 9672

DETACHED
453 454 1219 1223 1227 1264 2009 2013 2029 2835
3629 3636 3637 3648 3668 4442 4533 6058 6964 6974
7847 8722 9662 9663 9664

DIFFRACTION
2843 2844 3633 6145 9668

INTERACTION
2021 2406 4688 6282 8705

MEASUREMENT
475 2845 2855 4443 6155 8931

SHOCK WAVES IN FLUIDS *CONTINUED*

NORMAL
2020 2839 2853 3649 6059 6470 6471 7178 8709 9684

REFLECTION
1226 1235 1314 1315 1414 2842 4677 6050 6968 6972
7848 8702 8703

REFRACTION
5242

STABILITY
3638 7177

STRUCTURE
456 458 459 460 478 682 697 1224 1498 2224
2840 3833 3839 5240 6052 8086 8706 8902 9666 9667
9683

OBLIQUE
450 2015 4449

SEE ALSO--- COMBUSTION, SHOCK WAVES -- HIGH PRESSURE -- WAVES, REFLECTION AND REFRACTION

SHOCK WAVES IN SOLIDS
269 2405 2674 3476 4253 4255 5077 5543 6471 6765
7633 7643 7648 8518 8524 8525 9390 9394 9395 9396

ATTENUATION
5546

INTERACTION
2406

SEE ALSO--- FRACTURE, SPALLATION -- HIGH PRESSURE

SILOS--- *SEE* STRUCTURES, SILOS

SIMILITUDE--- *SEE* DIMENSIONAL ANALYSIS

SIMULATION
456 774 2434 2435 2470 3104 3202 3957 6431 6534
7427 7628 8131 8305 9133 9152 9153 9154 9971 10049

ANALOG
47 1630 1632 1673 2433 5496 5991 6528 6529 6530
6531 7428 7429 7430 7431 9145 9147

DIGITAL
47 1662 2469 5492 6524 6526 6532 6567 7425 7471

SEE ALSO--- COMPUTING TECHNIQUES

SKIN FRICTION

FLUID FLOW
411 420 616 2041 2044 2052 3583 3585 3613 4394
4653 6093 6994 7879

SLIP FLOW--- *SEE* RAREFIED GASES, SLIP FLOW

SLOPE STABILITY--- *SEE* SOIL MECHANICS, SLOPE STABILITY

SLOSHING--- *SEE* LIQUID SLOSHING

SNOW
3170 4272 5603

SOIL MECHANICS
369 1071 1081

ANALYSIS TECHNIQUES
273 275 277 278 281 283 286 298 305 1072
1079 1489 1491 1840 1849 2676 3142 3485 3489 3490
4257 4262 4264 5894 6769 6770 6777 6778 6779 6781
6784 7650 7655 7656 7659 7666 8528 9398 9399 9403
9406 9411 9411 9412 9421

SOIL MECHANICS *CONTINUED*

BEARING CAPACITY
295 1076 1835 1836 1837 1839 1845 2679 2683 3478
3480 3483 3486 3487 5879 5881 5887 5888 6780 6781
7652 7662 8526 8530

COMPACTION
276 285 1837 1847 4263 5881 5882 5883 6778 7662
8532 9404 9420

CONSOLIDATION
271 273 275 277 278 289 290 766 1072 1525
1526 1528 1838 3479 5080 6768 6770 7655 7658 9401
9403 9407 9418 9429

DYNAMICS
232 233 272 287 1841 1845 2680 2685 3486 3488
4266 5336 5889 5890 6761 6769 6773 6774 6776 7667
8527 9408 9413

EARTH PRESSURE
286 287 288 291 305 1075 1849 3487 3490 4259
4265 5083 6786 6787 8527 8531 9400 9429 9430

LIQUIFACTION
289 1528 5878 7657 9413

MOISTURE
271 765 766 1523 1838 3481 7661 9409 9414 9426
9428

MULTILAYER
4258 6779 7654 7670 9420 9421

PERMEABILITY
762 771 1525 1526 1528 1530 3170 6777 8181 9409
9429 10035

PLASTICITY
277 282 1840 3480 4981 6637 6771 6772 6787 7651
7659 9413 9430

PROPERTIES
272 274 276 279 280 282 283 285 296 297
305 754 1071 1073 1835 1836 1839 1841 1842 1843
1844 2677 2678 2680 3479 3481 3482 4256 4260 5079
5081 5878 5880 5881 6767 6771 6773 7650 7651 7652
7653 7660 7661 9398 9400 9401 9402 9404 9405 9406
9413 9414 9415 9425 9426 9429 9430

SETTLEMENTS
271 273 278 281 295 1838 1847 2681 5891 5892
5895 6780 7654 7656 7657 7668 9399 9418 9423

SLOPE STABILITY
291 298 1078 2690 2692 2942 3489 4273 4281 6775
6792 7653 7654 7658 7669 9427 9428

STABILIZATION
276 282 1837 1853 1854

TESTING METHODS
270 272 274 284 285 287 288 290 296 305
771 1071 1074 1836 1838 1842 1843 1844 2675 2677
2679 2680 3479 3482 3486 3488 4261 5081 5885 6767
7660 7661 8531 9400 9401 9402 9408 9409 9415 9416
9417 9420 9423 9429

SEE ALSO--- CLAY -- DAMS -- FOUNDATIONS -- HEAT TRANSFER, SOIL -- HIGHWAYS AND RUNWAYS -- HYDROLOGY -- PERMAFROST -- SAND -- SEDIMENTATION -- SEEPAGE -- TRAFFICABILITY -- TUNNELS -- VIBRATION, SOIL -- WALLS, RETAINING -- WELLS

SOLAR
1343 2730 8211

COLLECTORS
787 3784 9039

SOLAR *CONTINUED*

DISTILLATION
5884

ENERGY
625 787 2353 3186 3784 5390 7219 8209 9039 9866

FURNACES
2161 5601

SEE ALSO--- SPACE VEHICLE PROPULSION, SOLAR

SONIC BOOM
1485 2289 2290 2765 3146 3633 4742 5553 5558 5587
6348 6356 6362 6469 7241 7244 7736 7839 7845 7846
8704 9659 9667

SOOT FORMATION
7151

SOUND
3141 6355

ABSORPTION
2301 2302 2303 2311 3145 3894 4755 7249 7254 7258
7260 7261 7262 8150 8155 8981 8982 8983

ACOUSTIC LOADING
3134 3134 3144

ATTENUATION
460 1494 2295 2300 3138 3151 3884 3898 3899 3901
4739 5560 5563 6372 7249 8144 8151 8972 8986 9997

DIFFRACTION
2307 3143 3891 3892 3893 4753 4756 5558 7252 7258
8147 8978 9993

DIFFUSION
4751 7259

DISPERSION
3148 3895 6365 8145 8981

ECHOS
8134

ENERGY DENSITY
1478 2306 3886 4744

EXPERIMENTAL
1478 1482 2287 2294 2305 2308 2310

FIELDS
2298 2306 3886 6356 6359 7927 8977 8986 9995

GENERATION
732 1497 2287 3133 3139 3140 3882 3889 4742 4747
5549 5553 5557 6347 6348 6349 7244 7247 8133 8137
8139 8961 8963 8967 8970 9986

LIQUIDS
1290 2286 2305 2307 2311 2312 3147 3890 3897 3899
3900 4755 5559 6368 6369 7263 8156 8976 8986 8987

MEASUREMENT AND INSTRUMENTS
733 742 1486 2286 2287 2288 2301 2304 2307 2313
3134 3145 3148 3150 3152 3894 3897 3902 4744 4754
4757 4759 5556 5566 5567 6108 6359 6373 6375 7245
7246 7247 7256 7262 7263 7265 8161 8976 8989 8991
8992 8993

PRESSURE
2288 2290 3885 3890 3899 6356 6358 8138 8962 9985
9990

PROPAGATION
1492 2305 3132 3136 3147 3149 3150 3896 3900 4745
5562 5564 6371 6372 6373 6374 7246 7252 8990 9995

SOUND *CONTINUED*

PROPAGATION IN DUCTS
739 1479 3151 4739 4743 5561 6370 7251 8146 8151
8783 8962 8967 8975 9774 9989

RADIATION
1479 1480 1481 1495 2285 3131 3883 3889 4738 4743
5552 6347 6350 6351 6362 7240 7242 7243 7257 8133
8135 8136 8961 8964

RANDOM
1294

REFLECTION
2091 2294 2296 2297 2298 2299 2303 3142 3890 3892
4749 4752 6361 8975 8987 9987 9994

REFRACTION
5558

REVERBERATION
4737 6369 8149 8979

SCATTERING
2291 2292 2293 2298 3133 3137 3142 3149 3889 3891
5555 6360 6363 7253 7255 8150 8977 8980 8987

TRANSMISSION
2091 2295 2300 3146 3896 3898 3899 4740 4745 5559
6361 6364 6365 7257 8134 8967 8979 9987 9992 9994

VELOCITY
1290 2301 2302 2303 2308 2310 2312 3136 3482 3895
3898 4756 6366 6367 6368 7258 7263 7928 7976 8156
8984 8988

WAVES
1290 2091 2304 2934 7040 7936 8770

SEE ALSO--- AEROTHERMOACOUSTICS -- IMPEDANCE METHODS -- INTERFACE PHENOMENA -- NOISE -- SONIC BOOM -- TURBULENCE -- ULTRASONICS

SPACE VEHICLE DESIGN
3701 3824 5313 5975 7220 7222 7231 9975

LANDING DEVICES
3124

OUTER SHELL
268 1833 5523

STRUCTURAL DESIGN
1058 5524 8503 8510 9391

SEE ALSO--- STRUCTURES, SPACE VEHICLE

SPACE VEHICLE HEAT TRANSFER
620 625 1343 2159 2268 3006 3007 3788 4729 5420
5523 5524 6334 7221 8104

RADIATOR
2158 3010 9847

REENTRY
639 640 641 643 644 646 714 1342 2140 2153
3028 3029 3030 3031 3032 3773 3795 4732 5416 5442
5528 5529 6090 6245 6246 6247 7103 7138 7139 7226
8007 8014 8028 8029 8030 8031 8841

ROCKET MOTORS
4706 5447 8064

SPACE VEHICLE NAVIGATION AND GUIDANCE
702 1689 2256 2257 2258 5729 7212 8118 8939 8940

DIFFERENTIAL CORRECTION
1453

SHOCK WAVES IN FLUIDS *CONTINUED*

NORMAL
2020 2839 2853 3649 6059 6970 6971 7178 8709 9686

REFLECTION
1226 1235 1314 1315 1414 2842 4677 6050 6968 6972
7848 8702 8703

REFRACTION
5242

STABILITY
3638 7177

STRUCTURE
456 458 459 460 478 682 697 1224 1498 2224
2840 3833 3839 5240 6052 8086 8706 8902 9666 9667
9683

OBLIQUE
450 2015 4449

SEE ALSO--- COMBUSTION, SHOCK WAVES -- HIGH PRESSURE -- WAVES, REFLECTION AND REFRACTION

SHOCK WAVES IN SOLIDS
269 2405 2674 3476 4253 4255 5077 5543 6471 6765
7633 7643 7648 8518 8524 8525 9390 9394 9395 9396

ATTENUATION
5546

INTERACTION
2406

SEE ALSO--- FRACTURE, SPALLATION -- HIGH PRESSURE

SILOS--- *SEE* STRUCTURES, SILOS

SIMILITUDE--- *SEE* DIMENSIONAL ANALYSIS

SIMULATION
456 774 2434 2435 2470 3104 3202 3957 6431 6534
7427 7628 8131 8305 9133 9152 9153 9154 9971 10044

ANALOG
47 1630 1632 1673 2933 5496 5991 6528 6529 6530
6531 7428 7429 7430 7431 9145 9147

DIGITAL
47 1662 2469 5492 6524 6526 6532 6567 7425 7471

SEE ALSO--- COMPUTING TECHNIQUES

SKIN FRICTION

FLUID FLOW
411 420 616 2041 2044 2052 3583 3585 3613 4394
4653 6093 6994 7879

SLIP FLOW--- *SEE* RAREFIED GASES, SLIP FLOW

SLOPE STABILITY--- *SEE* SOIL MECHANICS, SLOPE STABILITY

SLOSHING--- *SEE* LIQUID SLOSHING

SNOW
3170 4272 5603

SOIL MECHANICS
369 1071 1081

ANALYSIS TECHNIQUES
273 275 277 278 281 283 286 298 305 1072
1079 1489 1491 1840 1849 2676 3142 3485 3489 3490
4257 4262 4264 5894 6769 6770 6777 6778 6779 6781
6784 7650 7655 7656 7659 7666 8528 9398 9399 9403
9406 9411 9411 9412 9421

SOIL MECHANICS *CONTINUED*

BEARING CAPACITY
295 1076 1835 1836 1837 1839 1845 2679 2683 3478
3480 3483 3486 3487 5879 5881 5887 5888 6780 6781
7652 7662 8526 8530

COMPACTION
276 285 1837 1847 4263 5881 5882 5883 6778 7662
8532 9404 9420

CONSOLIDATION
271 273 275 277 278 289 290 766 1072 1525
1526 1528 1838 3479 5080 6768 6770 7655 7658 9401
9403 9407 9418 9429

DYNAMICS
232 233 272 287 1841 1845 2680 2685 3486 3488
4266 5336 5889 5890 6761 6769 6773 6774 6776 7667
8527 9408 9413

EARTH PRESSURE
286 287 288 291 305 1075 1849 3487 3490 4259
4265 5083 6786 6787 8527 8531 9400 9429 9430

LIQUIFACTION
289 1528 5878 7657 9413

MOISTURE
271 765 766 1523 1838 3481 7661 9409 9414 9426
9428

MULTILAYER
4258 6779 7654 7670 9420 9421

PERMEABILITY
762 771 1525 1526 1528 1530 3170 6777 8181 9409
9429 10035

PLASTICITY
277 282 1840 3480 4981 6637 6771 6772 6787 7651
7659 9413 9430

PROPERTIES
272 274 276 279 280 282 283 285 296 297
305 754 1071 1073 1835 1836 1839 1841 1842 1843
1844 2677 2678 2680 3479 3481 3482 4256 4260 5079
5081 5878 5880 5881 6767 6771 6773 7650 7651 7652
7653 7660 7661 9398 9400 9401 9402 9404 9405 9406
9413 9414 9415 9425 9426 9429 9430

SETTLEMENTS
271 273 278 281 295 1838 1847 2681 5891 5892
5895 6780 7654 7656 7657 7668 9399 9418 9423

SLOPE STABILITY
291 298 1078 2690 2692 2942 3489 4273 4281 6775
6792 7653 7654 7658 7669 9427 9428

STABILIZATION
276 282 1837 1853 1854

TESTING METHODS
270 272 274 284 285 287 288 290 296 305
771 1071 1074 1836 1838 1842 1843 1844 2675 2677
2679 2680 3479 3482 3486 3488 4261 5081 5885 6767
7660 7661 8531 9400 9401 9402 9408 9409 9415 9416
9417 9420 9423 9429

SEE ALSO--- CLAY -- DAMS -- FOUNDATIONS -- HEAT TRANSFER, SOIL -- HIGHWAYS AND RUNWAYS -- HYDROLOGY -- PERMAFROST -- SAND -- SEDIMENTATION -- SEEPAGE -- TRAFFICABILITY -- TUNNELS -- VIBRATION, SOIL -- WALLS, RETAINING -- WELLS

SOLAR
1343 2730 8211

COLLECTORS
787 3784 9039

SOLAR *CONTINUED*

DISTILLATION
5884

ENERGY
625 787 2353 3186 3784 5390 7219 8209 9039 9866

FURNACES
2161 5601

SEE ALSO--- SPACE VEHICLE PROPULSION, SOLAR

SONIC BOOM
1485 2289 2290 2765 3146 3633 4742 5553 5558 5587
6348 6356 6362 6969 7241 7244 7736 7839 7845 7846
8704 9659 9667

SOOT FORMATION
7151

SOUND
3141 6355

ABSORPTION
2301 2302 2303 2311 3145 3894 4755 7249 7254 7258
7260 7261 7262 8150 8155 8981 8982 8983

ACOUSTIC LOADING
3134 3134 3144

ATTENUATION
460 1494 2295 2300 3138 3151 3884 3898 3899 3901
4739 5560 5563 6372 7249 8144 8151 8972 8986 9997

DIFFRACTION
2307 3143 3891 3892 3893 4753 4756 5558 7252 7258
8147 8978 9993

DIFFUSION
4751 7259

DISPERSION
3148 3895 6365 8145 8981

ECHOS
8134

ENERGY DENSITY
1478 2306 3886 4744

EXPERIMENTAL
1478 1482 2287 2294 2305 2308 2310

FIELDS
2298 2306 3886 6356 6359 7927 8977 8986 9995

GENERATION
732 1497 2287 3133 3139 3140 3882 3889 4742 4747
5549 5553 5557 6347 6348 6349 7244 7247 8133 8137
8139 8961 8963 8967 8970 9986

LIQUIDS
1290 2286 2305 2307 2311 2312 3147 3890 3897 3899
3900 4755 5559 6368 6369 7263 8156 8976 8986 8987

MEASUREMENT AND INSTRUMENTS
733 742 1486 2286 2287 2288 2301 2304 2307 2313
3134 3145 3148 3150 3152 3894 3897 3902 4744 4754
4757 4759 5556 5566 5567 6108 6359 6373 6375 7245
7246 7247 7256 7262 7263 7265 8161 8976 8989 8991
8992 8993

PRESSURE
2288 2290 3885 3890 3899 6356 6358 8138 8962 9985
9990

PROPAGATION
1492 2305 3132 3136 3147 3149 3150 3896 3900 4745
5562 5564 6371 6372 6373 6374 7246 7252 8990 9995

SOUND *CONTINUED*

PROPAGATION IN DUCTS
739 1479 3151 4739 4743 5561 6370 7251 8146 8151
8783 8962 8967 8975 9774 9989

RADIATION
1479 1480 1481 1495 2285 3131 3883 3889 4738 4743
5552 6347 6350 6351 6362 7240 7242 7243 7257 8133
8135 8136 8961 8964

RANDOM
1294

REFLECTION
2091 2294 2296 2297 2298 2299 2303 3142 3890 3892
4749 4752 6361 8975 8987 9987 9994

REFRACTION
5558

REVERBERATION
4737 6369 8149 8979

SCATTERING
2291 2292 2293 2298 3133 3137 3142 3149 3889 3891
5555 6360 6363 7253 7255 8150 8977 8980 8987

TRANSMISSION
2091 2295 2300 3146 3896 3898 3899 4740 4745 5559
6361 6364 6365 7257 8134 8967 8979 9987 9992 9994

VELOCITY
1290 2301 2302 2303 2308 2310 2312 3136 3482 3895
3898 4756 6366 6367 6368 7258 7263 7928 7976 8156
8984 8988

WAVES
1290 2091 2304 2934 7040 7936 8770

SEE ALSO--- AEROTHERMOACOUSTICS -- IMPEDANCE METHODS -- INTERFACE PHENOMENA -- NOISE -- SONIC BOOM -- TURBULENCE -- ULTRASONICS

SPACE VEHICLE DESIGN
3701 3824 5313 5475 7220 7222 7231 9975

LANDING DEVICES
3124

OUTER SHELL
268 1833 5523

STRUCTURAL DESIGN
1058 5524 8503 8510 9391

SEE ALSO--- STRUCTURES, SPACE VEHICLE

SPACE VEHICLE HEAT TRANSFER
620 625 1343 2159 2268 3006 3007 3788 4729 5420
5523 5524 6334 7221 8104

RADIATOR
2158 3010 9847

REENTRY
639 640 641 643 644 646 714 1342 2140 2153
3028 3029 3030 3031 3032 3723 3795 4732 5416 5442
5528 5529 6040 6245 6246 6247 7103 7138 7139 7226
8007 8014 8028 8029 8030 8031 8841

ROCKET MOTORS
4706 5447 8064

SPACE VEHICLE NAVIGATION AND GUIDANCE
702 1689 2256 2257 2258 5729 7212 8118 8939 8940

DIFFERENTIAL CORRECTION
1453

SPACE VEHICLE NAVIGATION AND GUIDANCE *CONTINUED*

GUIDANCE OPTIMIZATION
2473 8366

GUIDANCE THEORY
708 5535 5536 6342

MIDCOURSE GUIDANCE
5509 8942

NAVIGATIONAL EQUIPMENT
709 918 4065 8336

TERMINAL GUIDANCE
707 715 1452 6343 7211 8942 9692

SEE ALSO--- CELESTIAL MECHANICS -- LIQUID SLOSHING -- ORBIT MECHANICS -- SPACE VEHICLE STABILIZATION

SPACE VEHICLE POWER
2267 2272 4728 8447

NUCLEAR
3827 4671 8127

SOLAR
1445 3113 6333 8346

SEE ALSO--- SPACE VEHICLE NAVIGATION AND GUIDANCE

SPACE VEHICLE PROPULSION
2263 2264 3871 6271 6332 8446 8449 9972

ASCENT
5515

ATOMIC
2302 5565

ELECTRIC
3846 5517 7168 8070

IONIC
3111 3112 3869 5517 5533 6275 6301 7168 7218 8126

LOW THRUST
708 1448 3110

NUCLEAR
5539 9473

OPTIMIZATION
930

PERFORMANCE
5516 5531

PLASMA
693 696 1407 2218 2242 6305 7191 8089 9940

SOLAR
8070

SEE ALSO--- ORBIT MECHANICS -- PROPELLANTS -- SPACE VEHICLE NAVIGATION AND GUIDANCE

SPACE VEHICLE RECOVERY
9391

SPACE VEHICLE STABILIZATION
917 1455 3865 3867 3868 4721 5510 5532 7217

ATTITUDE-STABILIZATION
61 710 711 713 1058 1447 1454 1456 1460 1461
1694 3107 3862 3863 3864 5506 5513 5514 6328 6330
6331 8122 8124 8443

GRAVITATIONAL
3866 4723 5511 8125

SPACE VEHICLE STABILIZATION *CONTINUED*

GYROSCOPIC
716 940 1423 3863 5512 9469

MAGNETIC
7214 8444

SOLAR PRESSURE
1461 9470

STABILITY THEORY
2260 8116 8121

SEE ALSO--- ARTIFICIAL SATELLITES, ATTITUDE DETERMINATION -- ORBIT MECHANICS -- PERFORMANCE, SPACECRAFT -- SPACE VEHICLE NAVIGATION AND GUIDANCE -- SPACE VEHICLE PROPULSION

SPALLATION--- *SEE* FRACTURE, SPALLATION

SPECIAL MATHEMATICAL FUNCTIONS
45 845 869 4030 4878 4879 4880 6493 6500 6501
6503 6508 6509 7403 7411 8273 8290 9097 9126

SPECIFIC HEAT--- *SEE* THERMOPHYSICAL PROPERTIES, SPECIFIC HEAT

SPECTRAL ANALYSIS
648 1547 2342 4786 4791 4794 4796 5586 5680 6414
7316 8209 10043 10066

SEE ALSO--- SPECTROSCOPY

SPECTROSCOPY
4580 9061

SEE ALSO--- SPECTRAL ANALYSIS

SPILLWAYS--- *SEE* HYDRAULIC STRUCTURES, SPILLWAYS

SPINNING--- *SEE* AIRPLANE, SPIN RECOVERY

SPLINES
8622

SPOILERS--- *SEE* WINGS, SPOILERS

SPRAYS
758 2167 3019 6394 6395 6396 6397 6975 8174 9675

SPRINGS
381 1034 1176 2771 2772 6887 6888 6889 7766 9556
9557

NONLINEAR
7766

SEE ALSO--- BUCKLING, SPRINGS -- VIBRATION, SPRINGS

STABILITY--- *SEE* UNDER MODIFIER

STABILITY THEORY
252 1652 1657 2455 2460 3310 3312 4993 5240 5245
5345 5709 6056 6704 8110 8111 8325 8378 8381

SEE ALSO--- CONTROL STABILITY -- STATISTICAL CONTROL THEORY, STABILITY

STABILIZATION OF MOTION--- *SEE* VIBRATION, STABILITY

STABILIZATION OF SOILS--- *SEE* SOIL MECHANICS, STABILIZATION

STALLING

AIRFOILS
2876 8756

BLADES
506 3732 5373

STALLING *CONTINUED*

WINGS
4540 7905

STATICALLY INDETERMINATE STRUCTURES--- *SEE*
STRUCTURES, STATICALLY INDETERMINATE

STATICS
9201 9570

STATISTICAL CONTROL THEORY
58 886 1660 2443 4932 8332 8333 8335 9169 9171

DECISION THEORY
936 2489 8372

DESIGN
931 9018

ESTIMATION
56 896 1277 3299 4064 4910 6542 6589 8315 8363

FILTERING
53 912 1668 2480 3278 3281 4933 4934 5712 5727
6417 6563 6585 7472

LINEARIZATION
899 1645 1966 3302 5899 5901 5998 8331 8361 8647
8650 9168 9170

NOISE
72 1679 2461 3789 5180 6369 6562 6564

PREDICTION
912 1661 8374

OPTIMIZATION
1459 1684 7472

STABILITY
4907 6584 8323 9159

STATISTICAL DESIGN
2417 4387 8621 8636 8637

STATISTICAL MECHANICS
2119 2237 2839 2973 3735 3999 5375 6177 6178 6951
8267

SEE ALSO--- GROUP THEORY

STATISTICAL THEORY
36 37 39 1685 2419 3265 3510 4052 4722 4877
5670 5673 6417 6527 7390 8273 9019 9118 9119 9121
9122 9135 9452

SEE ALSO--- DATA ANALYSIS -- ERROR --
INFORMATION THEORY -- OPERATIONS RESEARCH --
RELIABILITY -- STATISTICAL CONTROL THEORY --
STATISTICAL DESIGN -- STOCHASTIC PROCESSES

STEAM
632 1329 1346 2200 3051 3733 3734 3741 4593 4639
4640 6444 7973 8811 9854

STEAM POWER PLANTS--- *SEE* POWER PLANTS, STEAM

STEEL
110 319 950 1632 3207 3519 4126 4294 4474 5922
5946 6640 6818 7695 8404 8541 8550 9052

ALLOYS
964 1895 2534 3513 4115 4118 4284 4287 6625 6803
9438

CAST
321 8015

MARAGING
4287

STILLING BASIN--- *SEE* TANKS, SURGE

STOCHASTIC PROCESSES
884 911 913 914 1605 1662 1687 2418 2467 3266
3292 3465 3786 3786 3993 4015 4035 4037 4082 4235
4236 4721 4876 5669 6417 6494 6495 6496 6497 6498
6565 7408 7409 7628 8330 8334 8502 8504 8506 9018
9102 9120 9122

SEE ALSO--- OPTIMAL AUTOMATIC CONTROL,
STOCHASTIC -- STATISTICAL CONTROL THEORY

STOL
2913 3093 3095 5315 6118 6132 6173 7023 8103 9991

SEE ALSO--- GROUND EFFECT MACHINES -- HYDROFOILS,
CRAFT -- VTOL

STRAIN HARDENING
1736 1738 4124 4125 4978 4979 6639 7530 9255

STRAIN MEASUREMENT--- *SEE* EXPERIMENTAL MECHANICS

STREAMS
4547

FLOOD FLOW
2791 2793 4390 9605

NATURAL
420 422 1484 3585 3587 3589 3590 4398 4403

STRESS AND STRAIN
1720 4115 6814 6832

ANALYSIS
91 300 335 397 1854 2542 2676 3532 4314 5121
5944 6532 6808 7517 7518 7532 7767 8389 8607

ANALYSIS TECHNIQUES, ELECTRICAL
1720 2323 2688 4099

ANALYSIS TECHNIQUES, MECHANICAL
383 4832 9245

ANALYSIS TECHNIQUES, OPTICAL
311 965 1891 2572 2686

CONCENTRATION
105 954 1111 1713 1714 1716 1717 1718 1722 1893
1902 2516 2518 2520 2598 3323 3324 3325 4105 4106
4107 4299 4307 4308 4954 5753 5754 5760 6615 6813
6820 6823 7497 7498 7564 8164 8390 8392 8393 9231
9451 9457

CONTACT
96 97 310 1721 2522 2523 2558 3331 3332 3333
3334 3335 3336 3469 4111 4112 4113 4760 4949 4950
4958 4963 5100 5756 5757 5758 5759 5996 5997 6618
6619 6655 6886 7509 8396 8997 9235 9236 9237 9238
9239

FINITE DEFORMATION
90 8405 9252

RELAXATION
104 312 1725 9247 9248

RESIDUAL
310 367 368 371 1105 1860 1864 1892 3535 4321
4322 4323 5100 8405 9444 9473 9478 9480 9481

SEE ALSO--- COATINGS AND FILMS -- EXPERIMENTAL
MECHANICS -- HIGH TEMPERATURE PROPERTIES OF
MATERIALS -- HOLOGRAPHY -- LOW TEMPERATURE
PROPERTIES OF MATERIALS -- PHOTOELASTICITY --
PHOTOPLASTICITY -- THERMOELASTICITY --
THERMOPLASTICITY -- WELDING, RESIDUAL STRESSES

STRESS CORROSION
4310 5118 6821 8391

STRESS CORROSION CRACKING
5936 6821

STRESS RELIEVING
9445

SEE ALSO--- HEAT TREATMENT -- WELDING, STRESS RELIEVING

STRESS RUPTURE
5108 9253 9432

STRUCTURES
164 481 1703 8468

AERIAL TRANSIT
2364

AIRPLANE
1 134 219 2553 4704 5170 5969 6880 6881 7755 8619 9519

ANALYSIS
264 365 874 1143 1144 1156 1157 1406 1907 1922 1940 3536 4335 4886 5146 5953 6836 6837 6839 6840 6841 6845 6846 6847 6849 6857 6862 7717 7735 8523 8601 8605 8620 9497 9521 9524

BLAST RESISTANT
5970 8527 9393 9538

BUILDINGS
1046 1801 1933 2732 2760 2764 3454 3455 4371 5165 5977 6863 6864 6865 8527 9543

CABLE SUPPORTED
2750 2762 8291 9505

COLLAPSE
4129 7528

COMPOSITE
124 128 131 132 133 134 5957

CREEP
1727 4464 5768

CUTOUTS
2761

DESIGN
348 1703 4268 4275 9393 9522
MAY FEATURE ARTICLE

DESIGN CODES
7738 8584 8593

DESIGN, EARTHQUAKE RESISTANT
1939 2333 6739

DESIGN, LIMIT
6848 7528

DESIGN, MINIMUM WEIGHT
353 1914 1915 2740 2741 2744 5149 6623 8585 8587

DESIGN, OPTIMUM
132 352 1147 1148 1149 1150 1912 1913 2742 2743 2745 2752 4342 5148 5151 5958 5959 5960 5961 5964 6850 6851 6852 6853 6854 6855 6856 7720 7721 7722 7723 8586 8588 8589 8590 8591 8592 8603 9504 9506

DOMES
2533

EARTHQUAKE EFFECTS
1938 4267 5980 7757 8527 8621 9546 9547 9548 9549

STRUCTURES *CONTINUED*

ELASTOPLASTIC ANALYSIS
1911 2672

FILAMENTARY
1161

FINITE ELEMENT METHODS
868 1166 1181 3443 3449 4365 5055 5144 5145 5777 5952 5959 5966 9494 9495 9496

INFLATABLE
7743

LOADS
4357 8521

MATRIX METHODS
43 142 145 196 208 235 1908 1932 2734 2735 2751 3453 3537 4336 4337 4338 4341 4354 5143 5951 6838 6842 6843 7611 7719 8580 9498 9520

MODELS
234 328 1883 2715 5971 9526

NONLINEAR ANALYSIS
231 4202 5141

OFF-SHORE
231 3452 3941 3945 3960 5085 5166 6742 9017

OPENINGS, REINFORCED
8611 8612

PRESTRESSED
1155 1941 2749 3541 5156 6861 7634 7637 8617

REACTORS
2758 4252 4363 5161 7642 7756 8608 8609 9540

RELIABILITY ANALYSIS
349 1812 3474 5968

ROOFS
1170 1171 2161 4372 7753

SAFETY
3474 6882

SHAKEDOWN
112 1909 1910 4477 9499 9503

SHIP
2763 4374 5167 5168 6875 6876 6877 7618 7704 7754 9544 9545

SILOS
1151 4364

SMOKE STACKS
3547 5153 5155

SPACE VEHICLE
134

STABILITY
250 251 5996 5997 7415

STATICALLY INDETERMINATE
1142 7716 9505

TESTING
1107 1799 1830 1831 2731 5973 5974 9488 9527

SEE ALSO--- ARCHES AND VAULTS -- BRIDGES -- BUCKLING, STRUCTURES -- CRANES -- CRAWLERS -- DAMS -- DOCKS -- DYNAMICS, STRUCTURES -- EXPLOSION, EFFECTS ON STRUCTURES -- FAILURE, PROBABILITY THEORY -- FATIGUE, STRUCTURES -- FINITE ELEMENT METHODS -- FOUNDATIONS -- FRAMES AND BENTS -- GRILLAGES -- HIGHWAYS AND RUNWAYS --

STRUCTURES *CONTINUED*
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HYDRAULIC STRUCTURES -- IMPACT, STRUCTURES -- JOINTS AND JOINING PROCESSES, WELDED -- LIMIT DESIGN AND ANALYSIS -- LOADS -- PIPING SYSTEMS -- PLATES, FOLDED -- PRESTRESSED CONCRETE -- REINFORCED CONCRETE -- SANDWICH CONSTRUCTION -- SEISMOLOGY -- SPACE VEHICLE DESIGN -- TANKS -- THERMOELASTICITY, STRUCTURES -- TORSION, STRUCTURES -- TOWERS -- TRUSSES -- TUNNELS -- VIBRATION, STRUCTURES -- WALLS -- WOOD STRUCTURES

STRUTS--- *SEE* COLUMNS

SUBLIMATION
4646 4647 7971 8028 8702 8703

SUBMARINES
1675 3960

SUBMERGED BODIES
2783 9046

SEE ALSO--- BODIES, COMPRESSIBLE FLOW PAST -- BODIES, INCOMPRESSIBLE FLOW PAST -- HYDRAULICS, DYNAMICS OF LIQUIDS

SUBSONIC FLOW--- *SEE* FLOW, COMPRESSIBLE, SUBSONIC

SUBOPTIMAL CONTROL
711 1690 3296 3306 4067 5723 6587 8369

SUCTION--- *SEE* BOUNDARY LAYER, CONTROL

SUPERCHARGERS
5359 5360 7155

SUPERFLUIDS
572 2933

SUPERPLASTICS
1732 2696 2699 4115 4633 8547 9253 9437 9438

SUPERSONIC FLOW--- *SEE* FLOW, COMPRESSIBLE, SUPERSONIC

SURFACE ROUGHNESS--- *SEE* FRICTION

SURFACE TENSION
931 3718 4423 4434 4550 5220 7932 7934 8022 9058 9596 9768 9833 9838 9856

SURGE TANKS--- *SEE* TANKS, SURGE

SUSPENSIONS
15 407 408 409 755 756 757 1518 1519 1520 2789 5653 5655 6218 6951 7371 7484 7485 7796 8023 8026 8172 9008 9014 10024

SEE ALSO--- AEROSOLS -- DISPERSION -- FLOCULATION -- SEDIMENTATION -- SEDIMENT TRANSPORT

SWIRL
447 1195 1208 1327 2027 2808 2815 2846 2857 3595 3642 4436 5253 6061 8670 8686

SYSTEMS ENGINEERING--- *SEE* AUTOMATIC CONTROL, PROCESSES

T

TAKEOFF--- *SEE* LANDING AND TAKEOFF

TANKS

STORAGE
632 633 1332 5160 5409 9536

TANKS *CONTINUED*

SURGE
3719 7051

SEE ALSO--- TOWING, TANKS

TEMPERATURE
2132

MEASUREMENT, ABSOLUTE
3027 5468 6192 7152 9814

MEASUREMENT, DIFFERENCE
1546 9019 9020

MEASUREMENT, INSTRUMENTS
583 2133 2174 3634 3937 5599 6201 6225 7365 7981 9810

CONTROL
2475 4935 5726 7221

TRANSFORMATION
1323 9808

SEE ALSO--- COATINGS AND FILMS -- FLAME, TEMPERATURE -- FLAME, TEMPERATURE MEASUREMENT -- HEAT TRANSFER -- MATERIAL TEST TECHNIQUES, LOW TEMPERATURE -- THERMOCOUPLES

TEMPERATURE RECOVERY
6222 9708

TENSOR METHODS--- *SEE* VECTOR AND TENSOR METHODS

TESTING--- *SEE* UNDER MODIFIER

TEXTILES
1441 4809 7764

THERMAL BUCKLING--- *SEE* BUCKLING, THERMAL

THERMOCOUPLES
4644 9054

SEE ALSO--- TEMPERATURE

THERMODYNAMIC PROCESSES
575 2022 2200 5244 6044 6055 6059 6959 7972 7979 9654 9655 9666

ADIABATIC
4583 6188 9685

ISENTROPIC
3734 4583 8811

ISOTHERMAL
5235

THERMODYNAMICS
571 1316 1317 2403 4585 5649 6181 6184 7488 7963 8809 8817

CRITICAL PHENOMENA
2146 2979 2982 3765 4584 5406 5413 8384 8829

CYCLES, ENGINES, TURBINES, ROCKETS
3053 6183 9886

CYCLES, POWER PLANT
576 6182 8806

IRREVERSIBLE
464 574 2134 2971 4587 6179 6180 7082 8748 8805

NONEQUILIBRIUM
1319 1594 2401 2970 3736 4002 4586 7378 7380 8805

THERMODYNAMIC FUNCTIONS
2124 2977 5426 9804

THERMODYNAMICS *CONTINUED*

SEE ALSO--- ABSORPTION -- AEROTHERMOCHEMISTRY -- AEROTHERMODYNAMICS -- BOILERS -- CALORIMETER -- CHEMICAL, THERMODYNAMICS -- COMBUSTION, THERMODYNAMICS -- COMPRESSORS -- DEWPOINT -- DIFFUSION, THERMAL -- DISSOCIATION -- ENGINES -- ENTROPY -- FLAME -- FREEZING -- HEAT TRANSFER -- KINETIC THEORY -- METEOROLOGY, THERMODYNAMICS -- MIXTURES -- PHASE CHANGES -- POWER PLANTS -- REFRIGERATION, AIRCONDITIONING --THERMOPHYSICAL PROPERTIES, EQUATIONS OF STATE -- TURBINES AND TURBOMACHINERY -- VORTEX TUBE

THERMOELASTICITY
6 1512 3159 4768 5577 6388 6389 7269 7275 8998

ANISOTROPIC AND NONHOMOGENEOUS MEDIA
746 751 1510 1514 2316 2322 3334 4765 4766 4767 5575 5578 6380 8162 8166 8995 8997

BEAMS
748 1912 3243 7266

GENERAL THEORY
749 2317 2318 3245 3903 3904 3906 3909 3998 4000 4001 4896 5648 6468 7277 7381 9002 9004 10013

NONLINEAR
3247 7275

PLATES
216 745 746 1503 1513 2315 3157 3907 4761 4763 4765 4967 5573 5575 5578 6376 6378 6381 7271 7273 7278 7495 8165 8166 8167 8998 10011

SANDWICH CONSTRUCTION
1514 3244 10016

SHAFTS
5569 5571 8163 8996

SHELLS
1502 1757 3910 8995 8999 9000 9001 9005

STRUCTURES
747 750 1506 1511 1515 2314 3158 5572 5574 6377 6379 6382 7267 7268 8168 8994 8996

THREE-DIMENSIONAL
4764 8164

TWO-DIMENSIONAL
753 4057

TRANSIENT EFFECTS
1505 1506 1507 1509 2320 3155 3156 3157 3160 3161 3905 3908 3910 4762 4763 4766 5572 5573 6385 6386 7270 7271 7274 8169 9001 9002 9003 9007 10009 10011

TUBES
104 747 1504 2319 3153 3154 4762 5570 5574 9006

SEE ALSO--- WAVES, THERMAL

THERMOELECTRIC PHENOMENA
5374

POWER GENERATION
3738 4588 5376 8004

REFRIGERATION
7980 8004

SEE ALSO--- THERMOCOUPLES

THERMOMAGNETIC PHENOMENA
5374

THERMOPHYSICAL PROPERTIES
593 1226 1229 1322 1535 2020 2125 2163 2979 2981 3170 3228 3654 4590 5379 6190 6191 7975 8211 9800 9802 9805

ACCOMODATION COEFFICIENT
6225

DIFFUSION COEFFICIENT
823 5380 5439

ENTHALPY
2011

EQUATIONS OF STATE
391 582 2120 2127 2128 2131 2976 2980 2982 2983 3740 7962 7964 7965 7971 7976 9807

JOULE-THOMSON EFFECT
9801

SPECIFIC HEAT
2146 3735 5432 8813 8872 9803 9811

SURFACE TENSION
2129 2130

THERMAL CONDUCTIVITY
634 1324 2126 2146 2975 2978 3742 3743 3748 5381 5415 5432 7086 7966 7974 7977 7978 7984 8002 8813 9820 8822 8823 8827 9020

THERMAL DIFFUSIVITY
593 2141 5415 8823

THERMAL EXPANSION
8270

THERMAL RADIATIVE
2156 2161 2162 2198 4627 5419 5422 7109 7110 8014 8849 8866 8870 9853

VAPOR PRESSURE
8808

VISCOSITY
580 2146 3741 3742 5381 7966 7978 8251 9806

SEE ALSO--- LATENT HEAT

THERMOPLASTICITY
103 2533 3354 4769 4771 4977 4980 6029 7276

THIN FILMS
3754 4599 6029 9589

FLOW
404 443 3782 9620

THRUST
3828 6272 8891 8894

AUGMENTER
3059

CONTROL
2267 2841 3823 5248 8066 8947

NOZZLE
469 470 1232 1233 3642 4440 4451 5249 5250 5255 6478 6483 7855

ROCKET
2266

SEE ALSO--- SPACE VEHICLE PROPULSION

THRUSTER
2213 2214 4412 6270 6275 7168 7169

TIDES
778 1542 2344 3174 5591 5592 5659 6157 7312 8661
8780 10056

TIME DELAY SYSTEMS
50 1672 1680 1684 4898 4899 5703 5730 6553 6554
6567 6574 6577 7632 8359 9194

TIRES
1562 2687 2688 3488 5854 6874 8619

TITANIUM
959 1954 4124 5618 9438

TOOLS

CARBIDES
964 1570 5911 8550

DESIGN
1858 1859 1951 4282 4288 5095 9436 9443

LIFE
311 1566 3496 4962

STRENGTH
5908

WEAR
1569 3496 6438 8550 9054

SEE ALSO--- VIBRATION, TOOLS

TOPOLOGICAL TECHNIQUES
845 884 1601 5701 6479 8919 9144

TORSION
89 3545 6616 7279 8347

ANISOTROPIC
98 6617

BEAMS
137 339 972 1719 3325 3328 3356 3357 3358 3380
3546 4110 4841 4995 5744 6097 6652 7266 7542 7546
7547 8427

PLASTIC
961 1110 3356 3357 3358 4975 9254

PLATES
3407 4961

SHAFTS
107 961 2524 3329 5785 5808 8394

SHELLS
3394 6678 7560

STRUCTURES
3330 4993 9234 9270

SEE ALSO--- MATERIAL TEST TECHNIQUES, TORSION

TORQUE CONVERTER
3197 4603 7948

TOUGHNESS
9445

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TOWERS
231 2682 5141 5166 5849 5896 6836

TOWING TANKS
7911

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TRAFFICABILITY
1077 3635 4036 4270

SEE ALSO--- CRAWLERS -- HIGHWAYS AND RUNWAYS -- VEHICLES, LAND

TRAJECTORY--- *SEE* UNDER MODIFIER

TRANSDUCERS
1054 4315 5985 8508 8960 8985

ACCELEROMETERS
253 254 5063 8509

CAPACITANCE
8161

HEAT TRANSFER
4643 5137

LOAD
9527

PRESSURE
742 743 4652 5136 6373 6374 6374 6793 7247 7265
8993 9528

ULTRASONIC
343 344 345 5568 8649

VELOCITY
1141

SEE ALSO--- ACCELERATION MEASUREMENT -- GAGES -- PIEZOELECTRICS -- PRESSURE MEASUREMENT, TRANSDUCERS -- THERMOCOUPLES

TRANSFORMS--- *SEE* OPERATIONAL METHODS

TRANSONIC FLOW--- *SEE* FLOW, COMPRESSIBLE, TRANSONIC

TRANSPORT OF DUST--- *SEE* DUST, TRANSPORT

TRANSPORT PROPERTIES---*SEE* THERMOPHYSICAL PROPERTIES

TRANSPORTATION--- *SEE* UNDER MODIFIER

TRUSSES
365 1142 2745 9523

SEE ALSO--- FRAMES AND BENTS

TSUNAMI WAVES--- *SEE* GRAVITY WAVES IN LIQUIDS, TSUNAMI

TUBES--- *SEE* PIPES AND TUBES

TUNNELS
301 1084 2737 2819 3752 4360 4361 4362 5083 5895
5974 7673 7674 9431

SEE ALSO--- HYDRAULIC STRUCTURES, WATER TUNNELS -- SHOCK TUBES, TUNNELS -- WIND TUNNEL

TURBINES AND TURBOMACHINERY
133 665 1304 2205 3460 4746 5154 8790

AXIAL
556 1306 2048 2110 2602 2949 2953 4562 4563 5348
6982 7065 8789 9782

BLADE COOLING
4610 8888 9841

BLADE EROSION
1564 6263 8885 9854

BLADES
549 2206 2602 3132 4284 4668 5044 6267 6268 8059

TURBINES AND TURBOMACHINERY *CONTINUED*

CASCADE OF BLADES, COMPRESSIBLE
545 2948 2949 4560 5346 5348 8936 9781 9782

CASCADE OF BLADES, INCOMPRESSIBLE
544 547 6163 7944

CENTRIFUGAL
2952

COOLING
664 3055

FATIGUE
8057

FLOW CHARACTERISTICS, COMPRESSIBLE
555 1305 1306 2949 3724 4562 4563 5349

FLOW CHARACTERISTICS, INCOMPRESSIBLE
557 3056 7812 8135

GAS
2206 3054 3055 3821 3822 7155 7156 7170 8055 8056
8058 8320 8882 8884 9060 9888

HYDRAULIC
557 2108 2951 6164 7064 7946 7947 8339

MIXED
550 4563

MODELS
2108

NOZZLES
6267 6268 8061 8884

RADIAL
2950 2952 3724 5349

ROTORS
1383 4218 4219 8048 9824

STEAM
145 1382 1383 2199 2200 2201 3050 3052 3814 3815
5463 6263 8049 8050 8883 8884 8885 9854 9883 9884

SEE ALSO--- COMPRESSORS -- FLOW, INTERNAL -- FLUTTER, TURBOMACHINES -- HEAT TRANSFER -- PERFORMANCE, TURBINES -- VIBRATION, BLADES -- VIBRATION, TURBOMACHINERY

TURBOJETS---*SEE* JET ENGINES, TURBOJET

TURBOPROPS--- *SEE* JET ENGINES, TURBOPROPS

TURBULENCE
1202 2894 2895 2901 3687 4515 5289 6021 7008 7242
7243 7895 8747 8748 9025

ANISOTROPIC
6094 7880 8685

BURGERS EQUATION
1259 2053 2056 2885 4506 7881

DIFFUSION
432 495 503 789 790 2063 2818 2888 2899 2966
3685 4015 5248 5593 6102 7015 7310 7892 9037 9733
9735 10056

FREE
500 2058 3686 5280 6100 7009 7010 7011 7883 8746
8769 9720 9759 9760 9761

FREESTREAM
504 1358 2065 2066 4492 6207 7040 7887 7919 9734

FRICTION REDUCING ADDITIVES
479 614 1243 5298 5607 6013 6998 7016 7794 7889

TURBULENCE *CONTINUED*
FRICTION REDUCING ADDITIVES *CONTINUED*
9548 9704 9721

HOMOGENEOUS
501 2055 2056 3688 4505 5292 7004 8908 9722 9723

ISOTROPIC
2063 2785 2887 4505 6095 8744 9592 9724

MEASUREMENTS
496 501 505 687 1243 1258 2059 2896 2897 2900
3691 4516 4517 5261 5299 5597 6094 6098 6108 6204
7003 7005 7006 7141 7893 7894 8735 8743 8744 8751
8765 9701 9704 9729 9736 10061

MEASUREMENTS IN WATER
2064 4514 9024 9721

MIXING LENGTH THEORY
498 2046 2061 2891 3662 5271 5272 5275 6198 6199
7013 7860 8746 9699 9823

STATISTICAL THEORY
494 495 497 503 778 785 786 1257 1258 2054
2883 2884 2885 2886 2887 2888 2892 2893 3075 3181
3624 3684 4505 4507 4508 4509 4741 5288 5290 5595
6094 6494 7005 7006 8685 9026 9707 9723 9725 9731

TRANSPORT
5295 6097 6300

WALL
498 502 2060 2062 3689 3692 4516 5291 5292 5294
6074 6093 6101 6104 7015 7863 7880 7894 8728 9701
9701 9729 9731

SEE ALSO--- ANEMOMETER, HOT-WIRE -- BOUNDARY LAYER, TRANSITION -- FLAME, TURBULENT -- HEAT TRANSFER, TURBULENT -- MASS TRANSFER, TURBULENT -- METEOROLOGY, TURBULENCE -- MIXING, TURBULENT -- PIPE FLOW, TURBULENT -- SHEAR LAYER, TURBULENT -- WAKES, TURBULENT

TURNING
5098 5386 5908 6938 6801 7683 8550

TWISTING OF SHAFTS--- *SEE* TORSION, SHAFTS

TWO-PHASE FLOW--- *SEE* UNDER MODIFIER

U

ULTRASONICS
343 344 345 740 741 1500 2294 2307 2308 2309
2312 2313 2722 3131 3143 3152 3497 4754 4755 5563
5564 5565 5568 6359 7263 7265 8147 8148 8156 8157
8158 8159 8160 8539 8546 8983 8989 8990 8991 8992

SEE ALSO--- FLOW MEASUREMENT, ULTRASONIC -- NONDESTRUCTIVE TEST TECHNIQUES AND INSPECTION, ULTRASONIC -- TRANSDUCERS, ULTRASONIC

UNSTEADY FLOW
1214 1306 3126 3598 3614 3620 3644 4414 4446 5202
5245 5261 6043 6054 9686 9688 9780

COMPRESSIBLE
445 465 507 1341 2031 2032 2036 2833 2842 2950
3641 3643 3645 3651 3652 4444 4451 4453 4454 4455
5244 5256 5258 5358 6064 6116 6984 6985 6986 7019
7841 7851 7912 8705 8709 8713 8714 9668 9669 9670
9673 9685 9687 9689

INCOMPRESSIBLE
429 433 439 440 508 565 1974 2008 2786 2824
2931 3601 3623 4391 4529 4568 4806 4807 5184 5234
6042 6135 6167 6414 6918 7018 7786 7789 8216 8645
8780 9646 9648 9650 9651 9652 9739 9746

UNSTEADY FLOW *CONTINUED*

SUBSONIC
7921 9750

SUPERSONIC
1266 3696 4442 4520 4580

SEE ALSO--- OSCILLATIONS IN FLUIDS -- PIPE FLOW, NON-STEADY

UPWASH AND DOWNWASH--- *SEE* WINGS, UPWASH AND DOWNWASH

V

VACUUM TECHNOLOGY
794 795 803 1500 2776 3212 3213 8800

SEE ALSO--- FLOW, EXPANSION INTO VACUUM

VALVES AND GATES
3823 5341 6007 7987 9700

HYDRAULIC
922 1186 3588 4919

MECHANICAL DESIGN
3565 6264

VAPORIZATION
4658 6244

SEE ALSO--- LATENT HEAT, VAPORIZATION -- MASS TRANSFER, EVAPORATION

VARIATIONAL METHODS
1616 1617 2415 2423 3264 4033 4071 6492 6807 6955 6956 7406 9116 9138

AERODYNAMICS
4435 4440 5312 4781

AUTOMATIC CONTROL
928 2486 4032 4069 4928 7207 7463

ELASTICITY
5 986 1068 1762

FLUID MECHANICS
2895 3679 3689 3769 4674 5401 6000 6070 6215 6911 7438 7787 8748 8838 9687 9917 9932

HEAT TRANSFER
600 626 1328 1339 1350 2134 2139 3679 3749 4034 4594 5401 5436 6215 6992 7087 8804 8818 8838 9813

PLASTICITY
951 3347 3351 3357 3494 4975 7524 7525 7529 9254

VISCOELASTICITY
951 4119 4969 5765

VAULTS--- *SEE* ARCHES AND VAULTS

VECTOR AND TENSOR METHODS
21 2439 2536 2785 3350 5319 6003 6479

SEE ALSO--- MATRIX METHODS

VEHICLES

AMPHIBIOUS
3201 3959 6430

AUTOMOTIVE
85 87 99 2506 2509 2510 2687 2688 3559 3569 4598 5853 5979 6874 8618 9152 9153

VEHICLES *CONTINUED*

LAND
297 3557 4598 6785 7475 7776 8337 8971 9426 9554

MOTION AND CONTROL
237 2509 2510 2645 3457 3458 5060 5853 7614

RAILWAY TRAINS
376 377 2645 4232 5852 5978 6890

SEA
1169 4375

STABILITY
85 1937 3457 3458 4373 5060 5852 5853 6316 7617

SUSPENSIONS
4230 5858 7615 7617

SEE ALSO--- AIRPLANE -- CRAWLERS -- DYNAMICS, VEHICLES -- GROUND EFFECT MACHINES -- IMPACT, VEHICLES -- MARINE ENGINEERING -- PERFORMANCE, VEHICLES -- RAILROAD SYSTEMS -- SPACE VEHICLES, WITH MODIFIERS -- SUBMARINES -- TIRES -- VIBRATION, VEHICLES

VELOCITY MEASUREMENT
568 2959 4571 4654 7073 7075 10112

VIBRATION
2 192 1798 1808 5828 6355 6703 6704 7590 9327 9328

ABSORPTION
5854 5860 6739 7627

ACCELERATION THROUGH RESONANCE
1

AIRPLANES
236 1806 3086 3652 6533 6732 6733 7619 9356

ANALYSIS
195 2777 3426 6364 7623 8498

ANISOTROPIC MEDIA
228 5042 5856 6726 8487

AUTONOMOUS SYSTEMS
2502

BEAMS
208 209 210 221 1035 1037 1058 1785 1786 1787 1793 2625 2652 3433 3434 3436 3437 3440 4205 4209 4215 4216 5037 5840 5857 6711 6737 7204 7205 7206 7595 7596 7597 7610 8368 8481 8511 9338 9339 9358 9368 9370

BEAMS, ELASTIC FOUNDATIONS
221 1032 1038 1788 2627 3454 6721 7599 8473 8477

BEAMS, FLEXURAL
211 1062 1063 1302 1789 1806 1816 2628 2653 3432 3442 4204 5038 5339 5838 5839 6708 6713 6714 6717 6747 7592 7598 8479 9340 9341 9364

BEAMS, LONGITUDINAL
108 1036 1056 3439 6712 6716 7631 8475

BEAMS, SANDWICH
212 1033 1045 3435

BEAMS, TORSIONAL
1789 3438 3439 5839 5845 6715 6725 8510 9353

BEARINGS
224 225 239 2651

BLADES
2245 3132 5044 5842 6349 7202 8135 8936 8965 9347 9986 9988

VIBRATION *CONTINUED*

BRIDGES
1902 3451 4702 5497

CABLES AND STRINGS
3425 4214 5036 5836 7591 7593 7594 7595 9952

CHATTER
1861

COMPOSITE MATERIALS
• 596 1045 1909 2640 2654 4139 7594 7601 8416 8481

CRYSTALS
6737

CURVED BARS
5848

DAMPING
242 243 244 1055 1056 1059 1809 1810 2647 2653
2654 3462 4212 4231 4697 5857 5861 7254 7624 8499
8500 9364 9365 9368 9369

ELECTROMECHANICAL
1052 1053 7595 7598 7604 7607 8480 8485 8508

ELECTROSTRICTION
223 8480

ENGINES
219 1805 2630 6718 6735 7616 9362

FINITE AMPLITUDE
1026 1030 2631 2633

FLOW INDUCED
1186 1423 1810 2248 3088 3091 3464 5337 5341 5846
6310 6311 7203 8096 8968

FLUID
539 1297 1302 5846 7239 7942 9600

FOUNDATIONS
232 1049 1051 1800 1805 2643 2685 3454 5850 7609
7612 7620 8492

FREQUENCIES, BEAMS
20 1036 1788 2626 2628 3435 3439 4204 5839 5840
8475 8476

FREQUENCIES, SHELLS AND PLATES
2626 4227 5040 5841 6729 7608 8489 9343 9345

GEARS
5855

GRILLAGES
234 8505

HELICOPTERS
5865 7199 9951

HUMAN
818 4821 7348 8242 9063 9065

IMPEDANCE METHODS
230 6365 8154

IMPULSIVE LOADING
241 1024 1063 5030 5033 5035 8474 9374

ISOLATION
195 1811 8144

LUMPED SYSTEMS
210 1044 4206 4208 4209 4215 6712

MACHINES
240 1049 1050 1784 2649 2650 7620 7621 7622 8469
8470 8492 8493 9359 9360 9361 9363 9371

VIBRATION *CONTINUED*

MAGNETOSTRICTION
7598 8508

MATRIX METHODS
196 215 235 1786 1795 1807 2627 2641 3443 3449
3463 4213 4228 5051 5830 6720 7611 8470 9367

MEASUREMENTS AND INSTRUMENTATION
108 2656 3466 4237 4240 5043 5062 6375 6748 9375

MEMBRANE
228 5837 9352

MISSILES AND ROCKETS
2945

MODES
2625

MULTIPLE DEGREE OF FREEDOM SYSTEMS
199 214 240 1024 1055 1784 3428 3454 3461 4206
4207 4208 4213 5030 5829 5861 6709 7589 7596 7620
7624 8470 8478 9329 9336 9337 9367 9369 9370 9373

NONHOMOGENEOUS MEDIA
232 233 3427 5845 6715 6716

NONLINEAR
194 200 201 1027 1029 1031 1061 1302 1778 1781
1782 2624 3429 3459 4010 4011 4012 4210 5034 5498
5658 5667 5832 5834 5835 6738 7254 8274 8472 9331
9332 9337

NONLINEAR, COMPLEX SYSTEMS
1025 1036 1779 2623 4226

NONLINEAR, FORCED
198 199 202 203 247 249 1057 1811 3426 3437
3461 4211 4212 5497 5833 5838 5855 6705 6706 6707
6708 6709 6713 7592 7626 7632 8473 9333 9372

NONLINEAR, FREE
5036 9334

PARAMETRIC
6738 8494 8505

PENDULUMS
107 197 1780 1783 2531 4088 5033 8471

PIEZOELECTRIC DEVICES
1052 1053 1054 3466 5069 5070 7522

PLATES
11 216 221 222 226 227 251 1044 1053 1060
1792 1793 1794 1814 2246 2247 2622 2631 2633 3089
3090 3434 3440 3442 3444 3445 5042 5043 5055 5069
5856 5857 6720 6721 6722 6737 6745 7200 7552 7603
8096 8097 8098 8482 8484 8934 9343 9345 9346 9348

PLATES ON ELASTIC FOUNDATIONS
1041 1046 1479 5039 6741 6744

PLATES, SANDWICH
220 1045 1809 7601 8101 8933 9330 9344

PLATES, STIFFENED
3087 4221 4238 5040 5041 5841

PROPELLERS
2634 5038 7257

RANDOM
243 246 247 248 249 251 1060 1061 1812 1813
2333 3463 4233 4235 4237 4238 4239 5055 5056 5862
5863 5864 6724 6728 6740 6741 6743 6745 7629 7630
8474 8505 9370

RESONANCE
108 199 7254 8148

VIBRATION *CONTINUED*

RINGS
8508

ROTATING DISKS
1043 2629 4218 4220 7600 8483

ROTORS
218 1037 1039 1042 1043 1790 1791 2245 3441 3460
4218 4219 4220 4698 5865 6719 7199 9362 9986 9988

SELF EXCITED
1061 2245 2650 5059 6796 7197 8382 8496 8507 9371
9948

SHAFTS
238 1791 2629 2630 2647 3459 4208 4217 4220 5037
7600 8486

SHELLS
256 1052 1814 2664 6723 6728 7053 7057 7059 7060
7061 7602 7608 7942 8487 9350

SHELLS, CONICAL
229 2533 4222 4701 5045 6313

SHELLS, CYLINDRICAL
213 228 230 1047 1423 1796 1797 1803 2533 2635
2637 2639 3446 3447 3448 3449 4223 4224 4226 4227
4233 4749 5047 5049 5343 5844 6311 6715 6724 6740
7201 7203 7239 7605 7607 7937 8100 8488 8489 8490
9333 9349 9351 9948

SHELLS, SANDWICH
213 2635 4222 8100

SHELLS, SPHERICAL
2533 2636 4224 4738 5046 5048 5843 6726 6727 6729
7240 7500

SHELLS, STIFFENED
229 1796 2533 2638 2640 3446 4225 8489

SHIP HULLS
238 1048 1804 2646 3456 4798 5052 6760 8213 8784
9357

SINGLE DEGREE OF FREEDOM SYSTEMS
202 203 242 243 244 246 1811 3430 4212 5034
5035 5073 5831 5833 5862 5863 6746 8493 8507 9332
9334

SOIL
232 233 285 1837 5336 5882 7609

SOLIDS IMMERSED IN A FLUID
1186 1190 2248 2636 3087 5059 5231 5336 6724 7352
8133

SPACECRAFT
1058 1806 8510

SPRINGS
193 202 5061

STABILITY
198 214 240 251 1024 1027 1778 1779 1780 1782
1784 1814 1815 2623 3461 4089 5831 5865 6738 7204
7205 7206 7592 7630 7632 9340

STRUCTURES
215 235 248 1795 1799 1802 1807 2641 2644 2652
3440 3442 3452 4223 4228 4229 4239 5037 5050 5051
5073 5830 5857 5997 6731 6739 6743 7408 7420 7613
8282 8468 8478 8491 8523 9335 9338 9374

STRUCTURES, BUILDINGS
1161 1801 2642 2754 3454 3455 3463 4377 6730 7203
7610 9354

VIBRATION *CONTINUED*

STRUCTURES, ELASTIC FOUNDATIONS
1046 5849 6774

TESTING
204 205 1056 1062 1063 1799 1817 1818 2639 5171
6732 9375

THERMALLY EXCITED
1803 2631 5575 6384 7204 7205 7206

TOOLS
1815 1861 3447 4288 4289 5054 5882 5905 6736 8469
8495 8496 9358 9361

TORSIONAL
107 213 1026 1030 1038 1797 2531 2647 4207 4208
4217 5038 7199 8271

TRANSIENT LOADING
8473 9329

TURBOMACHINERY
1795 3460 8497

VEHICLES
1299 3458 4089 4230 4232 5851 5858 6735 7615 7616
8494 8501

VISCOELASTIC
107 108 1033 1809 2531 3432 6622 6744 7625 9364

SEE ALSO--- ACOUSTICS -- AUTOMATIC CONTROL -- DAMPING CAPACITY OF MATERIALS -- FLAME, VIBRATION -- FLUTTER -- IMPACT -- IMPEDANCE METHODS -- LIMIT CYCLES AND OSCILLATIONS -- OSCILLATIONS IN FLUIDS -- SHOCK WAVES IN SOLIDS -- VEHICLES, SUSPENSIONS -- VIRTUAL MASS -- WAVES

VIRTUAL MASS
1555 4538 4798 4802 6939 7054 7326 8213 8668

VISCOELASTIC WAVES--- *SEE* WAVES, VISCOELASTIC

VISCOELASTICITY
4 125 369 841 1957 3995 5080 5764 6621 6860
7380 9085 9087

CONSTITUTIVE EQUATIONS
101 117 406 494 951 952 1595 1728 1961 2391
2397 2400 2527 2528 2785 3243 3245 3342 3344 3345
4842 5765 5767 6462 6623 6631 6913 7372 7513 7515
8537 9089 9248

DYNAMIC PROPERTIES
405 949 952 2783 3343 4970 5766 6630 6631 6632
7512 7520 7650 9246

EXPERIMENTS
106 403 1730 2527 2529 2532 3470 4840 7522 7676

FLOW
403 405 406 616 1961 1963 1968 2780 2781 2782
2784 2785 2820 2822 3582 5186 5187 6796 6914 6915
7788 7789 8645 9594

FINITE DEFORMATIONS
106 6630 7514

MECHANISM
99 100 102 2525 2526 4116 4117 5767 6622 6795
7519 8399 8400 9089

MOLECULAR THEORY
7790 8648

SEE ALSO--- CONTINUUM MECHANICS, CONSTITUTIVE EQUATIONS -- CREEP -- DISLOCATION THEORY -- VARIATIONAL METHODS, VISCOELASTICITY -- VIBRATION, VISCOELASTIC -- VISCOPLASTICITY --

VISCOELASTICITY *CONTINUED*
SEE ALSO--- *CONTINUED*

WAVES, VISCOELASTIC

VISCOPLASTICITY
2367 5773 6466 6635 9243 10083

SEE ALSO--- WAVES, VISCOPLASTIC

VISCOSITY
408 409 2368 2787 3581 5499 7790 8230 8648

MEASUREMENTS
581 2788 4592 7795 9597

METER
567 2789 8251 9600

SEE ALSO--- GRAVITY WAVES IN LIQUIDS, VISCOUS EFFECTS -- PRESTON TUBE -- ROTATING CYLINDERS, FLOW BETWEEN -- THERMOPHYSICAL PROPERTIES, VISCOSITY

VORTEX FLOW
447 1281 1489 2007 2058 2071 2072 2904 3240 3595
3626 3729 4410 4417 4529 4534 4790 5193 5203 5212
5230 5253 5554 6008 6018 6034 6038 6110 6118 6139
6207 6211 7024 7811 7814 7819 7832 8664 8665 8698
9617 9734 9809

SHEETS
511 1268 2080 3697 3702 3731 4528 5202 5204 5225
5301 6120 6122 7896 7900 7901

STREETS
565 1190 1191 4407 4432 4535 5228 5337 5594 6065
9643 9648

VORTEX TUBE
4797

VORTICITY
1202 2030 4409 5207 5219 5259 8696

VTOL
1432 2925 2953 3092 3093 3094 3095 3707 3708 4081
4582 4708 4709 4710 4711 4712 4713 5316 6118 6132
6173 7031 8103 9491

SEE ALSO--- GROUND EFFECT MACHINES -- HYDROFOILS, CRAFT -- STOL

W

WAKES
605 2836 3644 4428 4498 4581 5418 6133 6142 7140
9850

BASE FLOW
2012 6045 7840 8009 9681 9850

BASE PRESSURE
469

HYPERSONIC
1221 2837 3631 6046 9793

LAMINAR
472 4433 6083 6220 6454 6463 8687

MEASUREMENTS
649 2003 2004 2817 2900 3640 4428 5261 6079 6098
6107 6109 6465 7885 9727 9927

THEORY
649 1184 1205 1248 2001 4410 5203 7813

WAKES *CONTINUED*

TURBULENT
436 500 2003 3686 5219 5223 5224 6033 6098 6107
6109 6480 7180 7885 8009 9643 9726

WALL JETS--- *SEE* JETS, WALL

WALLS

SHEAR
373 374 375 3556 4369 4370 4428 5164 5476 6872
6873 8616

RETAINING
3490 6786 9430

SEE ALSO--- CONCRETE AND MASONRY, WALLS -- TURBULENCE, WALL

WATER HAMMER
537 2104 2105 2943 2944 3720 5332

WATER TUNNELS--- *SEE* HYDRAULIC STRUCTURES, WATER TUNNELS

WATERWAYS--- *SEE* CANALS

WAVES
1596 1883 5166 7041 9328

ACCELERATION
10 12 842 1595 2658 3246

ACOUSTIC
26 729 736 850 1491 2659 3774 3900 3901 3916
4754 5358 5560 5561 5562 5847 8422 8906 8975 8976
9119 9380 9919 9989

AMPLIFICATION
7902

ATMOSPHERIC
675 782 1543 4789 5594 8199 8200 8201 8202 8203
9030 9032 10059

ATTENUATION
1065 2090 2295 2943 2944 6152 7045

BARS AND BEAMS
255 263 851 1034 1064 1597 1821 1829 2532 2660
2665 3470 3473 4205 4245 5064 5870 5871 6725 6749
6750 6752 6753 6754 6806 6824 7631 7635 7636 7647
8511 8512 9378 9383 9392

BLAST
457 2016 2278 3834 3880 5241 5243 5547 7238 8700

CABLES AND STRINGS
1820 3431 4234 5867 5868 9376

CAPILLARY
1296 6153 8745

COMPOSITES
130 135 302 969 2549 2550 2670 4137 4138 4249
4250 4251 5781 6755 6764 7644 8414 8415 8417 8519

COMPRESSIONAL
7844

CRYSTALS
2666 2667

CYLINDERS AND SPHERES
130 416 739 1826 2659 2662 2668 3427 4249 5066
5074 5869 5870 6749 6750 6751 6754 7590 7644 8415
8511 8514 8515 8519 9353 9385 9387

CYLINDRICAL
1067 1826

WAVES *CONTINUED*

DETONATION
2277 3127 4655 4733 4734 5546 6761 7233

DIFFRACTION
738 1300 2937 3469 3893 4544 4753 5071 6145 8772
8978 9993

DOPPLER EFFECT
4750

EFFECT ON FLOATING BODIES
2946

ELASTIC
8990 10044

ELASTOPLASTIC
10 1824 1825 2665 5871 6752

ELECTROMAGNETIC
241 674 1054 1600 2662 3891 5070

FINITE AMPLITUDE
1066 2405 2674 2938 7382 7925 9395 9396 9774

FLUID
4448 6492 8279 9670

GENERATIONS
1291 1480 1543 2096 2342 2936 2942 4555 4787

GRANULAR MEDIA
284 9408

HALF-SPACE
262 1065 1822 1823 1825 2643 3424 3467 3468 4242
5067 5075 5850 6725 7612 7638 8517 8520

IMPULSIVE LOADING
263 1066 1069 1829 2659 3473 5074 5869 6483 6753
6758 6759 6760 6762 7647 8513

INCLUSIONS, INHOMOGENEITIES, CAVITIES
262 1067 1819 1824 1828 2404 2662 3468 3469 4243
4253 5071 6751 7253 7649 8271 8513 8524 9381 9385

INTERACTION
7255 7924 8775 9998

INTERFACE
1068 1492 3471 3472 3942 4751 4752 7895 8516 8978

LAYERED MEDIA
135 1068 1540 2092 2295 2661 2671 2935 4250 4251
4750 4778 5072 5873 7645 9384

LIQUID FILMS
2941

MAGNETOELASTIC
6283

MEASUREMENT
777 3470 3716 3720 3722 4546 4557 5078 5195 5233
8512 8788 8918 8976

MICROPOLAR MEDIA
7 11 259 4848 5075 6470 6473 9090

MOVING MEDIA
3073

NONHOMOGENEOUS AND ANISOTROPIC MEDIA
258 262 1067 1819 1828 2091 2668 3471 3472 4246
4247 4248 4847 5064 5068 5070 5872 6754 6756 6757
7383 7385 7646 9384 9386

NONLINEAR
848 1834 2090 2405 2406 3837 4246 4247 4740 5032

WAVES *CONTINUED*
NONLINEAR *CONTINUED*
5480 6146 6471 7045 7182 7382 7635 7926 7932 8153
8903

ONE-DIMENSIONAL
9366

PHASE AND GROUP VELOCITIES
3716

PLANE
2299 2934 3893 7886 8150

PLASTIC
261 269 284 1824 1825 2672 3473 9366

PLATES AND SHELLS
11 258 1066 2660 2661 3473 5065 5066 5074 6758
6762 7634 7637 8132 8415 8513 8514 8515 8522 9379
9380 9384

POROUS MEDIA
8150 8153

PROPAGATION VELOCITY
10 303 739 1230 2019 2780 3175 3944 4596 6492
7398

RANDOM MEDIA
1294 1819 2407 4248 4752 5057 6757 9763 9764

REFLECTION AND REFRACTION
2018 2294 2297 2663 3714 3892 5872 6361 6756 6765

SCATTERING
737 738 2291 2292 2293 2662 3072 3469 3891 3893
5874 6360 6751 7253 7255 7924 8150 8704 8980 9379
9667 9763 9764 9771

SEISMIC
262 772 773 775 776 777 1073 1533 2333 2334
2335 2336 2337 2338 2339 2669 2671 3166 3167 3168
3169 3427 3924 3927 4779 4780 5067 5584 5586 5587
5588 6412 6415 7302 7303 7304 7590 8188 8190 8191
8192 9015 9016 9384 10043 10044

SHEAR
5068 8649

SPHERICAL
261 1824 8964

STRUCTURE
9921

SURFACE
257 259 2223 2660 2663 2667 2670 3467 3471 3472
3940 4672 4780 5065 5072 5078 5873 5874 6766 7639
7640 7641 7645 8152 8195 8516 9397 9916

THERMAL
4596 4623 6217 7082 7270 7272 7274 8842 8847 9818

THREE-DIMENSIONAL
2941 8278

TRANSIENT
1820 1822 1823 1826 2296 4251 9382

TORSIONAL
1821 8271 8519 9353 9381

VISCOELASTIC
1066 1292 1595 1826 2405 2532 2780 2781 3470 5068
6753 7925 9007 9382 9383 9775

VISCOPLASTIC
260 6759 10047

SEE ALSO--- GRAVITY WAVES IN LIQUIDS --
IMPACT -- INTERFACE PHENOMENA --

WAVES *CONTINUED*
SEE ALSO--- *CONTINUED*

MAGNETO-FLUID-DYNAMICS, WAVES -- MARINE ENGINEERING, EFFECT OF WAVES ON BUOYS -- MARINE ENGINEERING, SHIP WAVES -- MARINE ENGINEERING, WAVE GENERATION BY OSCILLATION OF BUOYS -- NONDESTRUCTIVE TEST TECHNIQUES AND INSPECTION, ULTRASONIC -- OSCILLATIONS IN FLUIDS -- PLASMA (NON-MEDICAL) -- SEISMOLOGY -- SHOCK WAVES IN FLUIDS -- SHOCK WAVES IN SOLIDS -- SOUND, WAVES -- VIBRATION -- WAKES -- WATER HAMMER

WEAR
791 796 797 798 799 800 1174 1561 1563 1566
1567 1568 1569 1570 1572 2362 2363 2364 2365 2366
2370 3207 3217 3968 4811 4812 4815 5615 5617 5618
5619 6432 6433 6434 6435 6436 6437 6438 7335 7336
7337 7338 7341 7344 8225 8226 8228 8229 9052 9053
9054 9061 10073 10074 10076 10085 10087

SEE ALSO--- BEARINGS -- CAVITATION -- EROSION -- FRETTING -- FRICTION -- LUBRICATION -- TOOLS, WEAR

WEATHER FORECASTING
3951 4788 7311 7314 7317 9040

SEE ALSO--- ARTIFICIAL SATELLITES, WEATHER SATELLITES -- METEOROLOGY, SYNOPTIC, ANALYSIS AND FORECASTING

WEIRS--- *SEE* HYDRAULIC STRUCTURES, WEIRS

WELDING
1108 1955 3575 3576 7778 7779 7780 7781 8638 8639
8640 8641 8643 9587 9588

ARC
4595 7782 8552

BUTT
4895

DEFECTS
1953 1956

DIFFUSION
1954

ELECTRON BEAM
9586

EXPLOSION
5912 9980

INERT GAS, SHIELDED ARC
6804 8642 9565

LASER
9584

RESIDUAL STRESSES
1864 6804 7696 8552 8553 9444 9461

STRESS RELIEVING
1952 6803 8558

SEE ALSO--- HEAT TREATMENT -- JOINTS AND JOINING PROCESSES -- NONDESTRUCTIVE TEST TECHNIQUES AND INSPECTION -- PLATES, WELDED

WELLS
762 769 1570 3162 4774 5091 10037 10039

OIL AND GAS
3921 7301 8187 9638

SEE ALSO--- DRILLING

WHIRLING AND CRITICAL SPEEDS--- *SEE* SHAFTS, WHIRLING

WHISKERS
121 2540

WIND TUNNEL
3095 5239 9728

BALANCE SYSTEM
4581 7915 7922

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580 2967 2969 3706 4520 4538 4578 4582 5305 5314
6132 6173 7078 7906 8767 8799 9796 9797

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563 2073 7903

HOT SHOT
569

HYPERSONIC
2845 2918 4497 7955 7961 9798

MEASUREMENTS
44 506 518 520 524 528 1272 1273 1276 1287
2066 2072 2077 2918 4542 4742 5309 5310 5313 5320
6113 6121 6122 6123 6127 6128 6135 7023 7033 8759
8763 9742 9743 9744 9756 9758

MODELS
1544 3091

PLASMA
4579 4642

SUBSONIC
2078 2966

SUPERSONIC
1233 6174 7954 8801

TRANSONIC
1 490 5314 7078 7956 8753 8800

SEE ALSO--- SHOCK TUBES

WING BODY COMBINATION--- *SEE* AERODYNAMIC INTERFERENCE

WINGS
513 2908 2925 3633 3652 4528 5170 5304 5305 6120
6314 7025 7900 7901 7902 8107 8108 8764

DELTA
510 517 1275 1285 2113 2152 2909 4525 4529 4625
5306 6135 7021 7903 7904 8757 9658 9740 9741 9745

HEAT TRANSFER
2152 4615 4625

HYPERSONIC
516 1274 2073 4716 7021 7899

INCOMPRESSIBLE FLOW
509 1270 3149 3200 8755

OGEE
1270 1279 2907 4525

OSCILLATION
445 3086 7906 7909

PRESSURE DISTRIBUTION
44 1274 2152 3727 6308

SLENDER
2071 2072 6125 6315 7022 7024 8758 9743

SPOILERS
1263 8760

WINGS *CONTINUED*

SUBSONIC
1928 1939 1940 3097 4717 7017 9963

SUPERSONIC
4527 5446 8758

SWEPT
512 1268 2074 7030 7910

TRANSONIC
6309 7917 8754

UPWASH AND DOWNWASH
511

SEE ALSO--- AERODYNAMIC INTERFERENCE -- AIRFOIL THEORY -- BOUNDARY LAYER, WINGS -- FLUTTER -- OSCILLATIONS IN FLUIDS -- STALLING, WINGS

WIRE DRAWING--- *SEE* DRAWING

WIRES
1820 5172 7997 7998

SEE ALSO--- WHISKERS

WIRES, EXPLODING
726 2281 3128 4736 9983

WOOD STRUCTURES
140 3409 4994

WOOD, TIMBER AND PLYWOOD
5965 6408

X

X-RAY TECHNIQUES
1105 1891 2675 3534 4319 4320 4323 4982 5942 6830 6831 9478 9479

Z

ZERO G PHENOMENA
1353 10108

Supplemental Journal Listing

The following publication list supplements the cumulative List of Publications Scanned for APPLIED MECHANICS REVIEWS which appeared in the 1968 Annual Index issue, and the Supplemental Journal Listing which appeared in the 1969 and 1970 Annual Index issues. This Supplement contains 83 entries of which 66 are new titles to AMR and 17 are journals published under new or revised titles. Former titles will be shown with the new title entry.

Titles are listed alphabetically in the form in which they appear on the journal. All articles and prepositions have been included except those which begin a title. The list does not contain any cross-references and where the title has been changed the last known entry of the publication is given. The origin of the journal is listed following the title unless the title indicates the city and/or country of publication. Where the city does not appear as a part of the title, then the city is shown, followed by the name of the country if the city is not well-known.

Acta Polytechnica Scandinavica, Electrical Engineering, Series El. *Stockholm*

Advances in Plasma Physics. *New York*

Aeronautique et l'Astronautique. *Paris*

Aerotecnica Missili e Spazio. *Rome* (Formerly: Aerotecnica)

AIAA Selected Reprint Series. *New York*

Annales Scientifiques de l'Universite de Besancon, 3e Serie, Mathematiques. *Besancon, France*

Annales Scientifiques de l'Universite de Besancon, 3e Serie, Physique. *Besancon, France*

Archives of Mechanics. *Warsaw* (Formerly: Archiwum Mechaniki Stosowanej)

ASTM Special Technical Publication, STP. *Philadelphia*

Atti della Accademia Nazionale dei Lincei, Rendiconti delle Adunanze Solenni, *Rome*

Australian Geomechanics Journal, G. *Sydney*

Blech, Rohre-Profile. *Coburg, Germany* (Formerly: Blech, Fachzeitschrift fur die Erzeugung, Veredelung)

Bulletin of the Operations Research Society of America. *Berkeley, Calif.*

Chimie et industrie – Genie chimique. *Paris* (Formerly: Chimie et Industrie)

CME, The Chartered Mechanical Engineer. *London* (Formerly: Chartered Mechanical Engineer)

CMP Cieplne Maszyny Przeplywowe. *Lodz, Poland* (Formerly: Cieplne Maszyny Przeplywowe, CMP)

Computers & Structures. *Oxford, United Kingdom*

Defektoskopiya. *Sofia*

Elektrotechnika ir Automatika. *Vilnyus, Lithuanian SSR*

Engineering Issues, Journal of Professional Activities, Proceedings of the American Society of Civil Engineers, PP. *New York* (Formerly: Journal of Professional Activities, Proceedings of the American Society of Civil Engineers, PP)

Ericsson Review. *Stockholm*

Ericsson Technics. *Stockholm*

Fuel. *Guildford, United Kingdom*

Geophysical Transactions. *Budapest*

Graduate Journal. *Austin, Texas*

i + e Innovacion-Empresa. *Madrid*

Indian Geotechnical Journal. *New Delhi*

Industrial Mathematics. *Detroit*

Ingenieria Sismica. *Mexico, D. F.*

Innovation. *New York*

International Journal of Man-Machine Studies. *New York*

IVA Ingenjorsvetenskapsakademiens Meddelande. *Stockholm*

Journal of Applied Polymer Science. *New York*

Journal of Coated Fibrous Materials. *Westport, Conn.*

Journal of Cybernetics. *Washington, D. C.*

Journal of Differential Equations. *New York*

Journal of Dynamic Systems, Measurement, and Control, Transactions of the ASME Series G. *New York*

Journal of Mechanical Engineering Laboratory. *Tokyo* (Formerly: Journal of Mechanical Laboratory)

Journal of the Royal Netherlands Chemical Society. *The Hague* (Formerly: Recueil des Travaux Chimiques des Pays-Bas)

Journal of the Waterways Harbors and Coastal Engineering Division, Proceedings of the American Society of Civil Engineers WW. *New York* (Formerly: Journal of the Waterways and Harbors Division, Proceedings of the American Society of Civil Engineers WW)

Journal Water Pollution Control Federation. *Washington, D. C.*

Kontsentratsiya Napryazhenii. *Kiev*

KVT, Kibernetika i Vychislitelnaya Tekhnika. *Kiev* (Formerly: Kibernetika i Vychislitelnaya Tekhnika)

Kwartalnik Geologiczny. *Warsaw*

Latviiskii Matematicheskii Ezhegodnik. *Riga, Latvia*

Litovskii Mekhanicheskii Sbornik. *Vilnyus, Lithuanian SSR*

Mathematisch Centrum, TW. *Amsterdam*

Max-Planck-Institut fur Stromungsforschung, Bericht. *Gottingen*

Memorias da Ordem dos Engenheiros. *Lisbon*

Metallofizika. *Kiev*

Metallurgia and Metal Forming. *Manchester, United Kingdom* (Formerly: Metallurgia)

Moscow University Mechanics Bulletin. (Translation of Vestnik Moskovskogo Universiteta. Mekhanika by the Faraday Press, Inc., *New York*)

mt, Marine Technology. *Dusseldorf*

National Bureau of Standards, Building Science Series. *Washington, D. C.*

Nature, New Biology. *London*

Nature, Physical Science. *London*

Naval Architect. *London* (Formerly: Transactions of the Royal Institution of Naval Architects)

Networks. *New York*

NT, New Techniques. *Zurich* (Formerly: New Techniques, A, Automatic Control and Industrial Electronics *and* New Techniques, B, Nuclear Engineering)

Oceanology. *Beverly Shores, Ind.*

Physica Scripta. *Stockholm*

Podstawy Sterowania. *Warsaw*

Products, Projects and Trends in Building. *Chippendale*

Regional Conference Series in Applied Mathematics. *Philadelphia*

Report of the Institute of Industrial Science, The University of Tokyo.

Research Brochure of Regional Engineering College Kurukshetra. *Kurukshetra, India*

Revue Roumaine des Sciences Techniques, Serie de Geophysique. *Bucharest*

Schweissen + Schneiden. *Dusseldorf*

Science Tools; the LKB Instrument Journal. *Rockville, Md.*

Scientific Activities of the Institute of Fundamental Technical Research of the Polish Academy of Sciences. *Warsaw*

Software–Practice & Experience. *New York*

Soviet Journal of Nondestructive Testing. (Translation of Defektoskopiya by Consultants Bureau, *New York*)

Studies in Applied Mathematics. *Cambridge, Mass.* (Formerly: Journal of Mathematics and Physics)

Tatabanyai Szenbanyak, Muszaki Kozgazdasagi Kozlemenyei. *Tatabanya, Hungary*

Tele, English Edition. *Farsta, Sweden*

Teoriya Avtomaticheskogo Upravleniya. *Kiev*

Teplovye Napryazheniya v Elementakh Konstruktsii. *Kiev*

Transactions of the Institution of Chemical Engineers. *London*

Transporturi Auto, Navale si Aeriene. *Bucharest*

Valtion Teknillinen Tutkimuslaitos, Julkaisu. *Helsinki*

Vestnik Leningradskogo Universiteta, Matematika, Mekhanika, Astronomiya. *Leningrad*

Warme- und Stoffubertragung. *Berlin*

WRC Bulletin. *New York* (Formerly: Welding Research Council Bulletin)

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March — June — September — December

BASIC ENGINEERING

Cavitation
Flow Measurement
New Metals
Fracture in Metals
Hydrodynamics
Plastic Flow of Metals
Pressure Elements
Metalforming Processes

March — June — September — December

DYNAMIC SYSTEMS, MEASUREMENT AND CONTROL

Bioengineering
Fluidics and Fluid Power Control
System Modeling and Identification
Control System Components
Urban Dynamics and Societal Problems
Transportation
Instrumentation and Economic System Dynamics
System and Control Theory
Computer, Power, Space and Man-machine Systems

March — June — September — December

ENGINEERING FOR INDUSTRY

Aviation
Management
Machine Design
Materials Handling
Petroleum
Plant Engineering & Maintenance
Process Industries
Rubber & Plastics

February — May — August — November

ENGINEERING FOR POWER

Air Pollution
Energy Conversion
Fuels
Gas Turbines
Internal Combustion
Nuclear Energy
Power Generation
Pumping Machinery
Products of Burning
Solar Energy

January — April — July — October

HEAT TRANSFER

Applications
Astronautics
Complex Systems
Design
Experimental Techniques
Heat Exchangers
Insulation
Phase Changes
Phase Mixtures
Thermometry
Thermophysical Properties
Transient Phenomena

February — May — August — November

LUBRICATION TECHNOLOGY

Bearing Technology
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Vol. 1, No. 5, Sept.–Oct. 1972

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Vol. 1, No. 6, Nov.–Dec. 1972

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